MINING AND PETROLEUM STANDARD
AND
AMERICAN GAS-LIGHT JOURNAL.

Devoted to Mining, Petroleum, Gas, Water Supply, and Scientific Subjects Generally.

PUBLISHING OFFICE NO. 22 PINE STREET.

VOLUME VIII—No. 2.
WHOLE No. 158.

NEW YORK, MONDAY, JULY 16, 1866.

$3 PER ANNUM
IN ADVANCE.

Stanley's Hydraulic Gas Main.

The advantages claimed for this hydraulic main and bridge pipe above those now in general use, is, that it is more simple and graceful in its form, and costs less for equal capacity.

For instance, in most of the large gas works in this country the hydraulic main is about 20 inches in diameter, with an area above the tar of about 157 inches. This area is reduced by thaposition of the dip pipe (if seven inches internal diameter,) to about 87 inches, equal only to a 10½ inch main, by which fully *one half* of the capacity of the present style of main is lost by the obstruction of the dip pipe.

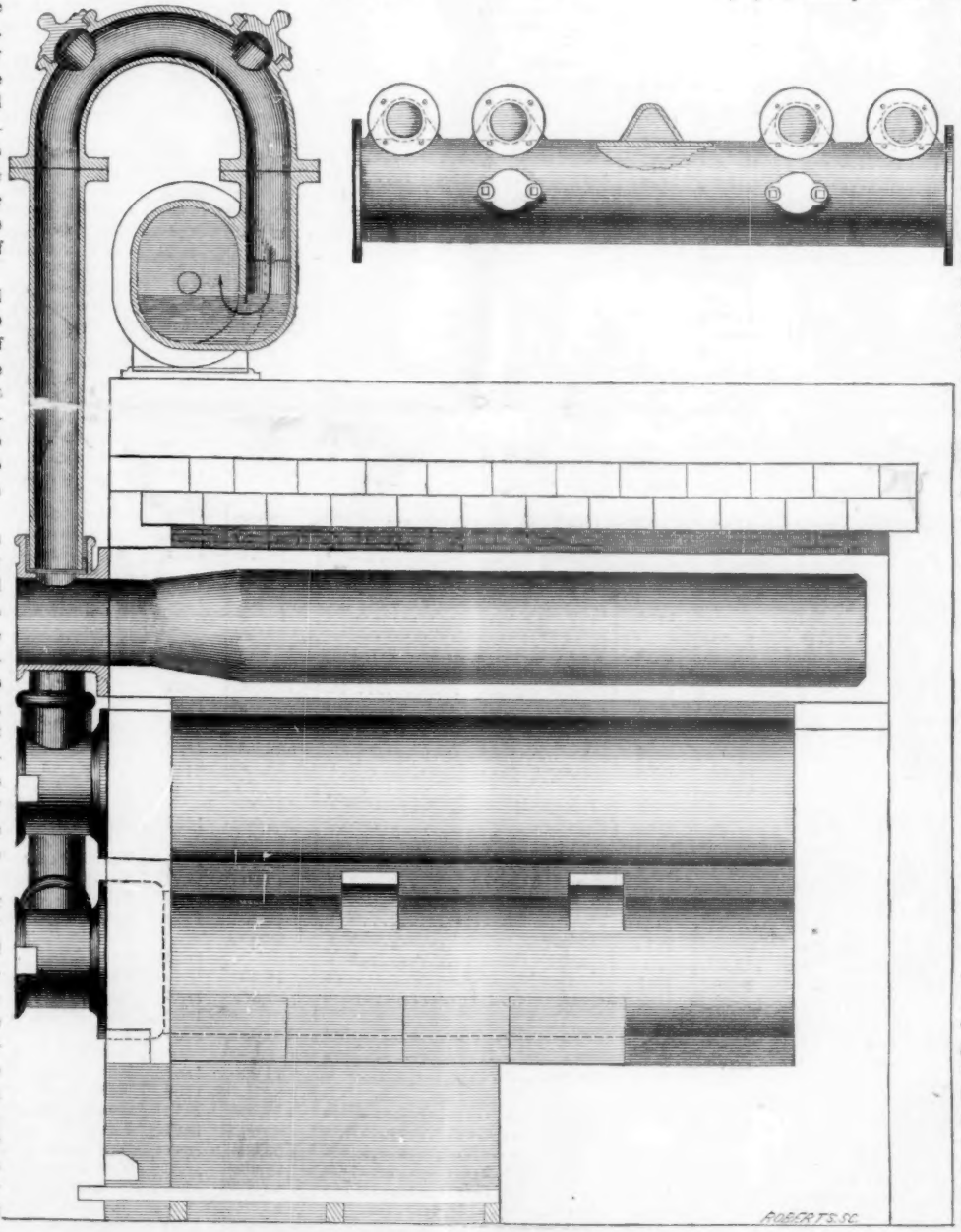
The main represented here is oval in form, 15x20 inches, it gives an area of about 133 inches above the tar, giving sufficient space to avoid the necessity of an auxillary main around the retort house to relieve the hydraulic main from its pressure.

When the D shape main is used the result is equally apparent. It may be said that the area in the main now used is ample for the passage of gas; this is undoubtedly true so far as small works are concerned, but for them this plan must be conceded as an improvement, as the principle holds good and is comparatively economical, because the main can be reduced in size.

The principal engraving represents a sectional view of the retorts, ridge and and dip pipes, and hydraulic main, showing the connection of the dip pipe to the main at the side, instead of entering the top as the custom has been heretofore. The small engraving gives a top view of the hydraulic main with a portion cut away to show how the casting is formed and the partition or dip is situated. This, in connection with the arrows, shows clearly the direction of the gas as it enters the main, and the operation or office of the dip partition, causing the gas to pass under it.

This main, with the dip and pipe attached, is cast in one piece with openings for clearing out the tar, thereby saving the expense of fitting dip pipes, which is unavoidable with the main which are now used.

The plain of this main has met the approbation of some of the first Gas Engineers of our country, and orders have already been given to have it introduced in a number of gas works. Its simplicity of form and saving of cost for the same capacity should commend it to universal use.



STANLEY'S HYDRAULIC GAS MAIN.

A patent has been issued for this invention. Parties desiring further information will please address the inventor, J. N. Stanley, Brooklyn, N. Y.

Otto of roses contain the same elements, and in the same proportions, as coal gas.

New Blasting Powder.

An improved gunpowder, applicable alike to mining and to the purpose of warfare, has been invented by Mr. G. A. Neumeyer, of Dobitz, Saxony; it is of a comparatively harmless nature when ignited under any other conditions than those in which it is to be employed, is cheaper than ordinary powder, and, on ignition, will evolve much less of the obnoxious vapors than are produced by the ignition of the ordinary powder. For this purpose about 75 parts by weight of saltpetre are mixed with about 18·75 parts by weight of charcoal, and about 6·25 parts by weight of flowers of sulphur, to form 100 parts of gunpowder. The charcoal is by preference prepared in the following manner:—Pieces of birchwood are first ignited, and are then immediately placed in a receptacle, which is closed hermetically. The charcoal thus obtained is then soaked in soda-lye, and is dried upon canvass strainers; it is then reduced to a powder, and is mixed or incorporated in a moist state with the other ingredients in about the proportions above mentioned. The mass thus produced may then be treated in any manner for converting it into a granular, pulverulent, or solid form. This powder, when ignited in an unconfined space, burns quietly and slowly without any explosive action, but if ignited in an enclosed space it exerts as great an exploding force as an equal volume of ordinary powder, and as its specific gravity is considerably less than that of such powder it is, of course, less expensive; it will never ignite through pressure or friction, and it is, therefore, less dangerous than ordinary powder, and as the proportion of sulphur employed is much less than in the latter, it follows that proportionately less noxious vapors will be generated by its explosion, which is of great importance in mining operations.

Manchester, England, employs steam power equal to 1,200,000 horses, consuming 30,000 tons of coal per day.

GAS-LIGHT COMPANIES IN THE UNITED STATES.

When Chartered.	Town and State.	Chartered Capital.
1857	Adrian.....Mich	$ 50,000
1856	Akron.....Ohio	20,000
1845	Albany.....N Y	250,000
1858	Albion.....N Y	30,000
1851	Alexandria.....Va	106,530
1852	Alleghany.....Pa	200,000
1853	Allentown.....Pa	60,000
1857	Alton.....Ill	75,000
1859	Altoona.....Pa	40,000
1859	Amesbury and Salisbury....Mass	30,000
1858	Annapolis.....Md	100,000
1858	Ann Arbor.....Mich	23,000
1858	Astoria.....N Y	20,000
1855	Atlanta.....Ga	50,000
1857	Attleboro'.....Mass	6,000
1850	Auburn.....N Y	80,000
1851	Augusta.....Ga	80,000
1853	Augusta and Hallowell....Maine	84,700
1860	Aurora.....Ind	10,000
1817	Baltimore.....Md	550,000
1852	Bangor.....Maine	120,000
1855	Batavia.....N Y	32,000
1853	Bath.....Maine	65,000
1859	Bath.....N Y	15,000
1861	Battle Creek.....Mich	15,000
1858	Belfast.....Maine	14,000
1856	Bellefont.....Pa	20,000
	Beloit.....Wis	30,000
1854	Bethlehem.....Pa	50,000
1859	Beverly.....Mass	40,000
1853	Binghampton.....N Y	50,000
1859	Birmingham.....Pa	40,000
1853	Bloomington.....Illinois	40,000
1853	Bordentown.....N J	50,000
1822	Boston.....Mass	1,000,000
1859	Brattleboro'.....Vt	21,000
1851	Bridgeport.....Conn	90,000
1857	Bridgeton.....N J	50,000
1856	Bristol.....Pa	30,000
1855	Bristol.....R I	35,000
1859	Brockport.....N Y	25,000
1853	Brookline.....Mass	77,000
1825	Brooklyn.....N Y	2,000,000
	Brownsville.....Pa	
1848	Buffalo.....N Y	600,000
1852	Burlington.....N J	100,000
1853	Burlington.....Vermont	75,000
1859	Burlington.....Iowa	65,000
1861	Caliais.....Maine	90,000
1852	Cambridge.....Mass	300,000
1852	Camden.....N J	300,000
1853	Canandaigua.....N Y	50,000
1856	Canton.....Ohio	19,000
1853	Cape Island.....N J	80,000
1860	Carbondale.....Pa	16,000
1853	Carlisle.....Pa	30,000
1856	Catasaqua.....Pa	15,000
1858	Catskill.....N Y	
1857	Chambersburg.....Pa	30,000
1846	Charleston.....S C	723,800
1851	Charlestown.....Mass	200,000
1858	Charlotte.....N C	14,000
1859	Charlotteville.....Vermont	15,000
1851	Chelsea.....Mass	100,000
1856	Chester.....Pa	35,000
1849	Chicago.....Illinois	1,300,000
1857	Chicopee.....Mass	50,000
1851	Chillicothe.....Ohio	40,000
1841	Cinninnati.....Ohio	1,600,000
1859	Citizens', Brooklyn.....N Y	1,000,000
1860	Citizens', Reading.....Mass	90,000
	Clarksville.....Tenn	100,000
1860	Claremont.....N H	20,000
1846	Cleveland.....Ohio	200,000
1858	Clinton.....Mass	30,000
1859	Clyde.....N Y	10,000
1854	Cohoes.....N Y	50,000
1860	Cold Spring.....N Y	30,000
1860	Cold Water.....Mich	25,000
1852	Columbia.....Pa	37,500
1852	Columbia.....N C	44,000
1857	Columbia.....Cal	50,000
1853	Columbus.....Ga	54,000
1850	Columbus.....Ohio	100,000
1853	Concord.....N H	50,000
1853	Covington and Newport.....Ky	100,000
1854	Cumberland.....Md	60,000
1857	Danbury.....Conn	50,000
1856	Danville.....Pa	30,000
1855	Davenport.....Iowa	56,000
1848	Dayton.....Ohio	50,000
1853	Dedham.....Mass	40,000
1860	Deleware.....Ohio	30,000
1849	Detroit.....Mich	500,000
1860	Dobbs' Ferry.....N Y	25,000
1854	Dorchester.....Mass	150,000
1859	Dover.....Del	$ 12,000
	Dover.....N H	
1857	Doylestown.....Pa	50,000
1854	Dubuque.....Iowa	50,000
1853	East Boston.....Mass	133,000
1858	East Greenwich.....R I	11,200
1861	East Hampton.....Mass	10,000
1861	East New York.....N Y	50,000
1857	Easton.....Md	9,000
1850	Easton.....Pa	125,000
1856	Eastport.....Maine	50,000
1855	Elizabeth.....N J	100,000
	Ellicott's Mills.....Md	10,000
1852	Elmira.....N Y	50,000
1852	Erie.....Pa	68,000
1853	Evansville.....Ind	60,000
	Exeter.....N H	60,000
	Fair Haven.....Conn	20,000
1847	Fall River.....Mass	26,000
1859	Fayetteville.....N C	25,000
	Fifth Ward (Milwaukee).....Wis	50,000
1857	Fishkill.....N Y	10,000
1853	Fitchburg.....Mass	100,000
1859	Flemington.....N J	20,000
1855	Flushing.....N Y	20,000
1858	Folsom.....Ala	
	Fort Wayne.....Ind	40,000
1851	Frankfort.....Ky	50,000
1851	Frederick City.....Md	36,000
1854	Fredericksburg.....Va	72,500
1858	Fredonia (Natural Gas).....N Y	10,000
	Freeport.....Ill	20,000
1850	Fremont.....Ohio	25,000
1858	Fulton.....N Y	12,000
1855	Galena.....Ill	70,000
1859	Gallon.....Ohio	25,000
1858	Galveston.....Texas	150,000
1854	Gardiner.....Maine	100,000
1853	Geneva.....N Y	75,000
1851	Germantown.....Pa	Merged
1859	Gettysburg.....Pa	20,000
1854	Glenn's Falls.....N Y	35,000
1854	Gloucester.....Mass	40,000
1857	Gloversville.....N Y	15,000
1858	Grand Rapids.....Mich	50,000
1855	Great Barrington.....Mass	5,000
1849	Great Falls.....N H	50,000
1860	Greenfield.....Mass	20,000
1853	Greenpoint.....N Y	100,000
1859	Greensboro'.....N C	12,000
1858	Greensburg.....Pa	30,000
1854	Hagerstown.....Md	15,000
	Hamilton.....Ohio	15,000
1859	Hannibal.....Mo	100,000
1857	Harlem.....N Y	350,000
1855	Harrisburg.....Pa	100,000
1849	Hartford.....Conn	200,000
	Hastings.....N Y	
1853	Haverhill.....Mass	50,000
1859	Haverstraw.....N Y	20,000
1861	Havervill.....Mass	15,000
1859	Hempstead.....N Y	16,000
1862	Hoboken.....N J	100,000
1856	Hollodaysburg.....Penn	30,000
1861	Hollyoke.....Mass	20,000
1861	Homer & Cortland.....N Y	40,000
1854	Honesdale.....Pa	30,000
1860	Hornellsville.....N Y	12,000
1853	Hudson.....N Y	50,000
	Hunter's Point.....N Y	
1857	Huntington.....Pa	18,000
1856	Huntsville.....Ala	7,325
	Indianapolis.....Ind	150,000
1857	Iowa City.....Iowa	40,000
1852	Ithaca.....N Y	75,000
1857	Jackson.....Mich	25,000
	Jackson.....Miss	80,000
	Jackson.....Cal	50,000
	Jacksonville.....Fla	35,000
1858	Jacksonville.....Ind	50,000
1856	Jacksonville.....Mo	25,000
1853	Jamaica.....N Y	20,000
	Jamaica Plain.....Mass	75,000
1856	Jamestown.....N Y	25,000
	Janesville.....Wis	50,000
1853	Jeffersonville.....Md	30,000
1858	Jersey City.....N J	300,000
1856	Jersey Shore.....Pa	15,000
1857	Johnstown.....Pa	80,000
	Joliet.....Ill	300,000
1858	Kalamazoo.....Mich	30,000
1860	Keene.....N Y	60,000
1855	Keokok.....Iowa	$ 100,000
1855	Kingston.....Pa	50,000
1859	Kittanning.....Pa	20,000
1854	Knoxville.....Tenn	63,000
1860	Laconia.....N H	20,000
1859	La Crosse City.....Wis	100,000
1854	Lafayette.....Ind	60,000
1856	Lamperville.....N J	30,000
1849	Lancaster.....Pa	100,000
1856	Lancaster.....Ohio	25,000
1855	Lansinburg.....N Y	25,000
1849	Lawrence.....Mass	200,000
1859	Leavenworth.....Kansas	200,000
1856	Lebanon.....Pa	56,000
1861	Le Roy.....N Y	22,000
1858	Lewisburg.....Pa	20,000
1852	Lewiston.....Maine	100,000
1856	Lewistown.....Pa	30,000
1853	Lexington.....Ky	100,000
1853	Little Falls.....N Y	112,000
1861	Little Rock.....Ark	20,000
1858	Lockhaven.....Pa	28,000
	Lockport.....N Y	100,000
	Logansport.....Ind	40,000
1838	Louisville.....Ky	600,000
1849	Lowell.....Mass	200,000
1852	Lynchburg.....Va	70,000
1852	Lynn.....Mass	55,000
1859	Lyons.....N Y	30,000
1852	Macon.....Ga	75,000
1851	Madison.....Ind	160,000
1855	Madison.....Wis	100,000
1854	Malden & Melrose.....Mass	50,000
1852	Manayunk.....Pa	40,000
1852	Manchester.....N H	100,000
1830	Manhattan (N. Y. City).....N Y	4,000,000
	Mansfield.....Ohio	25,000
1854	Marblehead.....Mass	40,000
	Marlboro'.....Mass	20,000
	Mauch Chunk.....Pa	50,000
1857	Marietta.....Ohio	50,000
1860	Marion.....Ohio	12,000
1858	Marysville.....Cal	50,000
1847	Massilon.....Ohio	20,000
1855	Meadville.....Pa	39,000
	Medina.....N Y	20,000
1852	Memphis.....Tenn	300,000
	Meriden.....Conn	20,000
1859	Metropolitan (N. Y. City).....N Y	1,000,000
1859	Middleboro'.....Mass	15,000
1853	Middletown.....Conn	50,000
	Middletown.....N Y	
	Milford.....Mass	20,000
	Milledgeville.....Ga	100,000
	Milton.....Pa	10,000
1847	Milwaukee.....Wis	400,000
1852	Mobile.....Ala	200,000
1836	Monroe.....Mich	40,000
1852	Montgomery.....Ala	100,000
1856	Montpelier.....Vt	30,000
1859	Morrisania.....N Y	30,000
1859	Morristown.....N J	13,000
1854	Mount Holly.....N J	16,650
	Mount Vernon.....Ohio	50,000
1857	Muscatine.....Iowa	50,000
1854	Nantucket.....Mass	50,000
1852	Nashua.....N H	45,000
1850	Nashville.....Tenn	100,000
1858	Natchez.....Miss	46,000
	Nevada City.....Cal	
1852	New Albany.....Ind	200,000
1846	Newark.....N J	362,000
1856	Newark.....Ohio	30,000
1852	New Bedford.....Mass	130,000
1859	Newbern.....N C	22,000
	New Britain.....Conn	30,000
1851	New Brunswick.....N J	100,000
1852	Newburgh.....N Y	67,000
1852	Newburyport.....Mass	150,000
1857	Newcastle.....Del	32,000
1847	New Haven.....Conn	250,000
1853	New London.....Conn	70,000
1835	New Orleans.....La	1,500,000
1853	Newport.....R I	130,000
1854	Newton & Watertown.....Mass	92,000
	Newton.....N J	30,000
	Newton.....Pa	20,000
	Newtown.....N Y	
1823	New York.....N Y	1,000,000
1859	Niagara Falls.....N Y	15,000
	Norfolk.....Va	60,000
1853	Norristown.....Pa	41,700
1855	North Attleboro'.....Mass	50,000
	Northern Liberties.....Pa	100,000
	North Adams.....Mass	425,000
1856	Northampton.....Mass	35,000

GAS-LIGHT COMPANIES IN THE UNITED STATES.

When Chartered	Town and State.	Chartered Capital.
1859	North Bridgewater.....Mass	$ 16,000
1856	Norwalk.....Conn	30,000
1859	Norwalk.....Ohio	30,000
1854	Norwich.....Conn	75,000
1861	Norwich.....N Y	12,000
1859	Nyack.....N Y	20,000
1860	Oberlin.....Ohio	10,000
1855	Ogdensburg.....N Y	75,000
1859	Orange.....N J	65,000
1852	Oswego.....N Y	81,000
1855	Ottawa.....Ill	45,000
1856	Owego.....N Y	40,000
1860	Owensboro.....Ky	75,000
1856	Paducah.....Ky	75,000
1861	Painsville.....Ohio	40,000
1856	Palmyra.....N Y	12,000
1847	Paterson.....N J	125 000
1850	Pawtucket.....R I	75,000
1855	Peekskill.....N Y	31,000
1860	Penn Yan.....N Y	12,000
1859	Peoples', Chicago.....Ill	500,000
1855	Peoria.....Ill	100,000
1852	Petersburg.....Va	120,000
1841	Philadelphia.....Pa	3,000,000
1855	Piqua.....Ohio	50,000
1835	Pittsburgh.....Penn	300,000
1854	Pittsfield.....Mass	50,000
1858	Placerville.....Cal	30,000
1860	Plainfield.....N J	25,000
1859	Plattsburg.....N Y	16,000
1853	Plymouth.....Mass	40,000
1860	Port Chester.....N Y	50,000
1860	Port Jervis.....N Y	20,000
1849	Portland.....Maine	300,000
1859	Portland.....Oregon	50,000
1859	Port Lavacca.....Texas	50,000
1851	Portsmouth.....N H	70,000
1855	Portsmouth.....Ohio	50,000
1855	Portsmouth.....Va	100,000
1856	Pottstown.....Pa	20,000
1850	Pottsville.....Pa	110,000
1850	Poughkeepsie.....N Y	84,000
1848	Providence.....R I	1,000,000
1853	Quincy.....Ill	300,000
	Quincy.....Mass	100,000
1855	Racine.....Wis	43,000
1857	Rahway.....N J	50,000
1858	Raleigh.....N C	25,000
1848	Reading.....Pa	100,000
1851	Richmond.....Va	341,975
1859	Richmond.....Mass	40,000
1859	Richmond County.....N Y	
1852	Ripley.....Ohio	25,000
1857	Rochester.....N Y	200,000
1854	Rockford.....Ill	40,000
1854	Rock Island.....Ill	100,000
1852	Rockland.....Maine	50,000
1854	Rome.....N Y	35,000
1854	Rondout and Kingston.....N Y	65,150
1859	Roxbury.....Mass	150,000
	Rutland.....Vt	20,000
	Saco.....Maine	71,600
1857	Sacramento.....Cal	500,000
1859	Sag Harbor.....N Y	20,000
1858	Saint Albans.....Vt	15,000
	Saint Johnsbury.....Vt	30,000
1857	Saint Joseph.....Mo	50,000
1839	Saint Louis.....Mo	600,000
1857	Saint Paul.....Minn	200,000
1856	Salem.....N J	30,000
1850	Salem.....Mass	200,000
1859	Salem.....Ohio	25,000
1859	Salisbury.....N C	14,000
	Salisbury Mills.....Mass	15,000
	Salmon Falls.....Maine	25,000
	San Antonio.....Texas	73,000
1854	Sandusky.....Ohio	75,000
1859	Sandwich.....Mass	10,000
1852	San Francisco.....Cal	2,000,000
	San Jose.....Cal	
1853	Saratoga Springs.....N Y	30,000
	Saugerties.....N Y	30,000
1849	Savannah.....Ga	200,000
1851	Schenectady.....N Y	50,000
1858	Scranton, Gas and Water.....Pa	100,000
1857	Selma.....Ala	20,000
1856	Seneca Falls and Waterloo.....N Y	80,000
	Shreveport.....La	40,000
1856	Sing Sing.....N Y	
	Smyrna.....Del	10,000
1860	South Adams.....Mass	5,000
1859	South Bridge.....Mass	200,000
	South Boston.....Mass	200,000
	Springfield.....Ohio	75,000
1854	Springfield.....Ill	75,000
1848	Springfield.....Mass	100,000
1855	Stamford.....Conn	6,250
1857	Staten Island.....N Y	150,000
1858	Staunton.....Va	18,000
	Steubenville.....Ohio	150,000
	Stockton.....Cal	50,000
1848	Syracuse.....N Y	125,000
	Tamaqua.....Pa	40,000
1859	Tarrytown and Irvington.....N Y	70,000
1853	Taunton.....Mass	100,000
	Terre Haute.....Ind	100,000
	Thompsonville.....Conn	25,000
	Tiffin.....Ohio	25,000
1853	Toledo.....Ohio	100,000
1847	Trenton.....N J	100,000
1848	Troy.....N Y	200,000
		30,000
1856	Urbana.....Ohio	80,000
1849	Utica.....N Y	
		66,000
1853	Vicksburg.....Miss	25,000
1859	Vincennes.....Ind	25,000
1863	Virginia City.....Nev	100,000
1858	Walden.....N Y	30,000
1853	Waltham.....Mass	30,000
1857	Ware.....Mass	20,000
1861	Warren.....Ohio	500,000
1854	Warren.....R I	15,000
1855	Washington.....D C	20,000
1859	Washington.....N C	100,000
1848	Washington.....Pa	100,000
1854	Waterbury.....Conn	20,000
1852	Waterford.....N Y	25,000
1852	Watertown.....N Y	30,000
1856	Watertown.....Wis	20,000
1858	Wautome.....Wis	60,000
1857	Waverly.....Miss	100,000
1854	West Cambridge.....Mass	25,000
1852	Westchester.....Pa	20,000
	Westfield.....Mass	50,000
	Weston.....Ohio	100,000
1857	West Point.....N Y	75,000
1853	West Troy.....N Y	20,000
1850	Wheeling.....Va	50,000
	White Plains.....N Y	1,000,000
1856	Wilkesbarre.....Pa	30,000
1850	Williamsburg.....N Y	70,000
1858	Williamsburg.....Va	12,000
1857	Williamsport.....Pa	60,000
1859	Williamantic.....Conn	200,000
1853	Wilmington.....N C	36,000
1852	Wilmington.....Del	20,000
1854	Winchester.....Va	20,000
1861	Windsor.....Vt	10,000
	Woburn.....Mass	82,000
1856	Woodstock.....Vt	25,000
1853	Woonsocket.....R I	160,000
1856	Wooster.....Ohio	
1849	Worcester.....Mass	
1855	Xenia.....Ohio	40,000
1854	Yonkers.....N Y	100,000
1849	York.....Pa	40,000
	Yorkville.....S C	20,000
1858	Ypsilanti.....Mich	20,000
1850	Yreka.....Cal	30,000
1848	Zanesville.....Ohio	44,000

Gas-Light Companies in the British Provinces of N. A.

1854	Belleville.....C W	33,000
1854	Brankford.....C W	32,000
	Brockville.....C W	50 000
	Chatham.....N B	50,000
1854	Charlottetown.....P E I	50,000
1857	Cobourg.....C W	30,000
	Dundas.....C W	30,000
	Frederick.....N B	50,000
1843	Halifax.....N S	160,000
1850	Hamilton.....C W	125,000
1848	Kingston.....C W	80,000
1853	London.....C W	100,000
1847	Montreal.....C E	400,000
1854	Ottawa.....C W	40,000
1859	Point Levi.....C E	25,000
1859	Port Hope.....C W	28,000
1847	Quebec.....C E	200,000
1848	St. Catharines.....C W	80,000
1859	St. Hyacinthe.....C E	15,000
	St. John.....N B	179,000
	St. Johns.....N F	50,000
1858	Sorel.....C E	14,000
1848	Toronto.....C W	400,000

Gas-Light Companies in Cuba, Mexico, South America and New Zeland.

1857	Callao.....Chile	
	Cardenas Cubana.....Cuba	50,000
	Compania.....Havana	500,000
	Cienfuegos, Guanabacoa, Pegla, Trinidad.....Cuba	
	Guiness.....Cuba	
	Guyaquil.....S A	150,000
	Havana.....Cuba	2,000,000
	Lima.....Peru	100,000
	Maranham (chartered).....—	
	Mantanzas.....Cuba	50,000
	Mexico City.....Mexico	550,000
1854	Monteviedo.....S A	500,000
	Para (chartered).....—	
1857	Rio de Janeiro.....S A	1,000,000
	San Iago.....Chile	500,000
	Saint Jago de Cuba.....Cuba	451,000
	Valparaiso.....Chile	500,000
	Vera Cruz.....Mexico	500,000
	Ville Glara.....Cuba	50,000
	Auckland.....N Z	

Gas Companies of which we have not received Date of Charter or Amount of Capital.

Amsterdam.....N Y	Hollis Springs.....Miss
Belleville.....Ill	Johnstown.....N Y
Balston.....N Y	Kansas City.....Kansas
Bucyrus.....Ohio	La Porte.....Ind
Canta.....N Y	Medford.....Mass
Cooperstown.....N Y	Middletown.....Pa
Corning.....N Y	Milton.....Mass
Citizens', San Fran'co, Cal	Mount Vernon.....N Y
Danvers.....Mass	Murfreesboro.....Tenn
Ellsworth.....Maine	Naugatuck.....Conn
East Saganaw.....Mich	Parkersburg.....W V
Fondulac.....Wis	Princeton.....N J
Georgetown.....D C	Reading.....Mass
Genessee.....N Y	Richmond.....Ind
Grafton.....Va	Rockville.....Conn
Greenville.....S C	Rome.....Ga
Hanover.....Pa	Salem.....N C
Henderson.....Ky	Honolulu.....S Islands

Nitro-Glycerine vs. Gunpowder.

Lately a series of experiments were made at Washington by Col. Shaffner, showing the relative explosive force of nitro-glycerine and gunpowder. There were some five hundred gentlemen present, among whom were many officers of the army and navy. Several water torpedos were exploded, the powder scarcely making any spray, and the nitro-glycerine raised the water over one hundred feet high. Several musket barrels were charged with the two substances, and the nitro glycerine in each case tore the iron into fragments. Mines were similarly constructed in the earth, and on iron plates, and with these the superior power of the other compound was forcibly shown. A wrought iron shaft twelve inches in diameter, with an orifice one inch in diameter, was torn to pieces. A similar result took place with a cast iron shaft, and an experiment with powder similarly applied failed to injure the iron. Earth mines were tried, and the crater produced with powder did not exceed four feet in diameter, while the nitro-glycerine tore up the earth about twelve feet across the crater. Col. Shaffner illustrated how the San Francisco explosion occurred by saturating saw dust with the glycerine; and many other very interesting experiments proved the extraordinary power of nitro-glycerine, and how easily it can be handled and employed without incurring the danger common to gunpowder. The Government aided Col. Shaffner to make the experiments with the view of promoting science.

Indications of Petroleum have been discovered on the land of Thomas Ames, near the Town River, West Bridgewater, Mass., and a mining company is to be formed with a cash capital of $20,000, to test the underlying rocks.

Gold has been discovered between Fairlee and Bradford, Vermont.

New Croton Water Works.

The High Bridge Reservoir begun—Water for the Upper Part of New York Island next Summer—The New Croton Tower—Important Improvements.

The new Croton works, near High Bridge, between One Hundred and Seventy-second and One Hundred and Seventy-fifth streets and Tenth avenue and Harlem river, which are designed to supply water to large numbers of people of this city living up-town, are now fairly begun, and will be completed in about two years; though a part of the works will be finished and pipes will be laid so that water can be furnished from them next year. These works are to consist principally of a reservoir and a tower, with a steam pumping apparatus and such other machinery as may be needed to carry and distribute Croton water everywhere on New York Island. About nine-tenths of the people who may eventually inhabit this city, and who cannot have water from the reservoirs at Forty-second street and Central Park, are to be accommodated from the new High Bridge reservoir; and for the remaining one-tenth a tower will be built, in which water will be carried to the height of three hundred and fifty feet above tide level. A brief account of the plan of the works was printed in the *Evening Post* in September of last year. Since then all the obstacles to the beginning of operations, such as the needed legislative sanction at some points, the acquiring of title on behalf of the city to the lands to be occupied, etc., have been overcome, and there will now be no more delays than are necessarily connected with an enterprise of this kind. We give an outline of the work to be done.

THE RESERVOIR.

The construction of the reservoir, which will cover seven and eight-tenths acres of ground, is just begun under a contract made a few weeks ago. It is to stand on elevated ground on the south side of Harlem river, and not far from the end of High Bridge. All the water it is to contain—its full capacity will be twenty million gallons—must be pumped into it from the mains below High Bridge. These are at their base 122 feet above tide-level. At Central Park reservoirs, the height is about 115 feet, and at Forty-second street, about 111 feet.

The bottom of the reservoir will stand 215 feet above the tide, and about 90 feet higher than the point at which the water for it will be taken. From 90 to 105 feet will therefore be the distance the water must be raised. The "head" that will thus be given will send it in ordinary pipes to nearly all points that are too high to be reached now from the reservoirs already built.

THE TOWER.

For the accommodation of the people who will in a few years live on Washington Heights and perhaps one or two other elevated points, where the whole population may in time number several thousands, a tower is to be built. The base of it will stand 215 feet above tide water. The contract for this tower is not yet made; but the specifications are printing from the plans of Chief-Engineer Craven, of the Croton Aqueduct Board, under whose supervision all the work is done, and the contract will probably be awarded in a few days. It is understood that the height of the tower to the great tank that is to be placed on it will be 115 feet, or 330 feet above tide. Then the height of the tank will be 20 feet or 25 feet more, giving an extreme elevation of 350 feet above high-water mark The distributing pipes will be connected with the tank, and run down through the tower. Thus the Croton water can be sent, it is understood, into the upper stories of any house that can ever be built on this island.

THE PUMPING ENGINES AND OTHER APPARATUS.

There are to be two pumping engines. The engine house will be built very near the end of High Bridge. The larger of the engines will raise 2,000,000 gallons of water about 105 feet in 10 hours, and the smaller one is to raise 200,000 gallons about 250 feet in 10 hours—the water to be taken by one for the main reservoir, and by the other for the tower reservoir. The smoke pipe from the boiler houses will, it is reported, be 150 feet in height.

There is to be a wharf on Harlem river, near the bridge, for the service of the boiler and engines, with coal and other materials needed. From this wharf a railway on an ascending plane will be constructed, so that supplies can be drawn by steam power from the edge of the water to the level of the bridge, or above it.

A TEMPORARY SUPPLY OF WATER.

The pumping engines are to be finished next summer, but the other works will not be completed until a year or more later. The people up-town will not, however, be obliged to wait for water all that time. When the engines are ready for operation, the distributing pipes according to the present arrangements, will also be in readiness wherever it may be convenient to place them; and by the use of a force pump the water will be sent into the people's houses.

The sum of $500,000 has been appropriated for the construction of the reservoirs, tower, etc.; but it is probable that at least $100,000 of the amount will not be required.—*Evening Post, June* 29.

Electricity in a Cotton Mill.

The Lowell (Mass.) *Courier* of March 23d, says: "It is a general truth that friction develops electricity, and most workmen know that a machine belt at high speed by its friction with the air is highly electrified. It has for years been a common experiment for workmen to light gas burners by holding one hand to a fast going belt and the other to the open burner. This matter was curiously demonstrated in the Appleton Mills of this city on Wednesday. A strong smell of fire being noticed, the premises were carefully searched, and a small quantity of cotton lint inside a belt casing, was found on fire. The lint lay upon a beam which was within four inches of a belt some fifteen inches wide and moving two hundred and twenty revolutions a minute. In the beam was an iron bolt, the head of which was toward the belt. From the belt to the bolt was passing a stream of electric sparks, which had set the cotton lint on fire. After attending to this case Mr. Motley, the agent, opened the casing of a similar belt in another mill. The beam in this case was fourteen inches from the belt, but the stream of electric sparks was at once seen jumping across the beam, although it had not set fire to anything. Perhaps some of the cases of fire from supposed 'spontaneous combustion' are due to electricity from machinery. The subject is an interesting one for investigation, and probably a profitable one."

Water Meters.—A premium has been offered by the Industrial Society of Amiens, in the following terms: The proprietors of steam-engines are in want of a water meter which will indicate exactly the quantity of water injected into the boiler, whatever be the pressure. This apparatus must be one easily set up, not subject to get out of order, and capable of registering the quantity of water to within two per cent. of the actual volume. It is not a memoire that the society wishes for, but an apparatus in working order on which experiments can be made; and if a water-meter be presented appearing to be of practical utility, the society will use every effort in its power to promulgate the use of the contrivance. The meters to be experimented on should be sent to the office of the society before March 1st, 1867.

A Gas Company Fined.—At the Newcastle Police Court, on Saturday, the Gas Company of that borough were charged with unlawfally supplying gas which was not equal to that prescribed by their Act of Parliament, inasmuch as it contained more than 15 grains of sulphur in every 100 feet. The clause under which the proceedings were taken had been inserted in the Act at the instance of the instance of the corporation who were now the complainants. It was proved by an analytical chemist that on the average there were 24·11 grains of sulphur in every 100 feet of gas. The Magistrates considered the complaint to be proved, and inflicted a penalty and costs, amounting to nearly 25*l*.—*Lndon Builder.*

Sodium Amalgam—It is Not Explosive.

The following extracts are from an article published in the *Evening Post* of a late date, which we are pleased to insert as a matter of information, and particularly as it confutes an erroneous statement that has been going the rounds of the Press, namely, that sodium amalgam is explosive, which, aside from its injury to the general advancement of science, is a positive detriment to the interests and well earned reputation of the inventor, Prof. Henry Wurtz:

"Among many ingenious applications is one invented by Dr. Wurtz of this city. This is the employment of sodium amalgam in working the ores of the precious metals. It appears that mercury containing a little sodium is much more active in seizing upon gold than mercury is in its pure state. The presence of the sodium in small quantity is pronounced highly beneficial. But just as this beautiful discovery is about to be applied on a large scale the report is circulated that sodium amalgum is highly explosive. There is great doubt in the minds of scientific men whether this report has any foundation in fact. That it would slowly decompose in contact with water, there can be no doubt, but there are no practical difficulties in the way of its transportation. On the contrary, it has been proposed as the best and most convenient form for the shipment of mercury, as it is solid and easily packed.

Metallic sodium itself is, however, a different substance from the amalgam. The two have probably been confounded together. Pure sodium, when thrown upon water, at once decomposes the water, and if the metal be confined, it takes fire and burns. If a piece of considerable size be employed, it swims on the water for a moment, and then explodes with great violence. The heat evolved by the rapid decomposition of the water is sufficient to ignite the hydrogen; and as this hydrogen is mixed with the air, it forms one of the most highly explosive compounds we are able to produce. The presence of naptha in the pores of the metal may also add to the force of the explosion.—Some interesting experiments were recently performed in this city. A large piece of metallic sodium was tied to a stone and thrown into the river. In this instance the metal disappeared at once, and there was no explosion, as the evolution of hydrogen took place under the water, and the heat was not sufficient to ignite the gas, and if it had done so, there was no oxygen for it to combine with, as that is appropriated by the metal. The idea of putting the metal into a bomb with the expectation that it would blow a hole through the bottom of a ship does not seem to be practicable. A piece of the naked metal tossed upon the water immediately exploded, throwing up a column of spray and covering the surface with brilliant burning globules, producing an effect similar to the burning of a rocket in the air. This experiment, tried in a small earthen vessel, blew a hole through the bottom. Another piece wrapped in paper floated about for some time, then set fire to the paper and exploded as before."

Prof. Wurtz's invention by amalgamating the sodium with mercury so changes this character of explosiveness, that it can be handled and transported without difficulty or danger of explosion, thus preserving to our mining interests an invention of the utmost practical utility, probably not excelled by any modern discovery of the kind.

P. S—Since writing the above we have noticed in the N. Y. *Times* an article wherein Sodium Amalgam is called a new substance for *blasting purposes*. In the same article "Sodium" and "Sodium Amalgam" are used as synonymous terms. It is to be regretted that such mistakes occur, which lead the public into erroneous opinions of matters concerning which they rely upon the accuracy and scientific knowledge of their informant. The characteristics of Sodium and Sodium amalgam are entirely dissimilar, and especially in regard to explosiveness. And while it is well known that Sodium is explosive in contact with water, it no more follows that Sodium Amalgam is so, than that the same dangerous attributes belong to common table salt—(chloride of sodium).

Great Fire in the Oil Regions.

There was a great fire on Bennehoff run on the night of the 7th inst. During a thunder storm the lightning struck the gas pipe in the Western Union Telegraph well. The fire quickly communicated to the tank, which exploded, and the oil ran down the run, causing the flames to communicate with several other tanks, which in turn exploded and caused one of the heaviest conflagrations the oil regions have ever experienced.

We learn that between eighteen and twenty large producing wells were burnt up, including two or three large flowing wells, among which were the Sheridan and Western Union Telegraph wells, both of them large flowing wells.

The Sheridan had eight or nine tanks filled with oil, all of which were destroyed. Twenty thousand barrels of oil, and some estimate the number at a much larger figure than this, were destroyed. The oil was a foot deep as it ran down the run to Oil creek. There were also between twenty and thirty derricks destroyed, the wells of which were in various stages of completion. The loss cannot be estimated at present, but it is very heavy.

ANTHRACITE COAL FOR FRANCE.—The Pittsburg *Mining Journal* suggests that with a little exertion and some expense a market can be opened in France for our surplus production of anthracite coal. Before the rebellion, a gentleman of Philadelphia sent anthracite coal to France, had it tested, and was about closing a contract to supply several thousand tons of anthracite coal for the use of one of the railroads running out of Paris, but the breaking out of the rebellion checked further progress at that time. All that is required to introduce coal in France is to send out a couple of locomotives, built for the use of anthracite coal, with an engineer to run them, and a machinist who can alter engines, together with a few stoves for burning anthracite coal. Such a test will be successful, and open a market for a large quantity of anthracite coal. The freight across the Atlantic is small compared with some inland freights—and last week a lot of anthracite was shipped to China from Philadelphia. We are now producing more anthracite coal than the market will take at remunerating prices, and we therefore commend this subject to the consideration of the anthracite coal interests of Philadelphia and New York.

Brevities.

Water when converted into steam, increases its bulk eighteen hundred times. When frozen it has an expansive force of twenty-eight thousand pounds to the square inch.

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Beautiful specimens of jasper, in quantities unlimited, have been discovered in the Vermillion gold mines, Minnesota.

A plan is in contemplation to supply Buffalo from natural gas wells at Amherst, ten miles distant. A well now sunk flows 40,000 feet of pure gas every day, and five more are proposed.

An official report to the English Admiralty, made after experiments, recommends the use of petroleum and other oils as fuel for marine and other locomotive engines.

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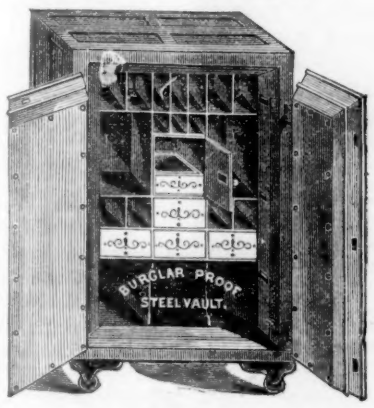

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Apply at the Gas-Works of St. Nicholas Hotel, No. 63 Mercer st., N. Y., where one can be seen in operation; or address D. Parrish, Jr., St. Nicholas Hotel, New York city, or No. 1416 Arch street, Philadelphia.

SAVING OF FUEL TO PARTIES USING STEAM.
DAMPER REGULATORS.

Guaranteed to effect a great saving in fuel and give the most perfect regularity of power. For sale by the subscribers, who have established their exclusive right to manufacture dampers regulators, using diaphragms or flexible vessels of any kind. CLARK'S PATENT STEAM AND FIRE REGULATOR COMPANY, No. 117 Broadway, New York.

THE AUBIN BALLANCED

VALVE WATER METER,

(Used also for Oils and Liquors)

Is now in use by many City Water Cos, because of its low price, simplicity, durability, accuracy under any pressure, and (a great advantage) because it runs with less head than any meter used. Manufactured by H. Q. HAWLEY, Albany, N. Y.

R. D. WOOD & CO.,

MANUFACTURERS OF

CAST-IRON PIPE, RETORTS, &c.

Office, 400 Chestnut Street,

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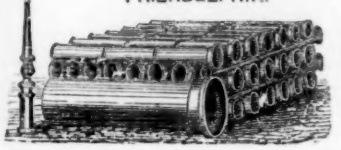

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PURCHASING

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In Connection with all the Expresses

No. 30 Broadway,

NEW YORK.

Established 1854.

Purchases to order ANY article wanted from New York, (or from Europe,) for ladies' or gentlemen's use or wear,—comfort or luxury—from a cameo to a cashmere—a sea ring to a steam-engine.

Goods purchased at current City prices, and forwarded by Express, or as directed.

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Remittances, with orders, can be made by Express if preferred, as all Express Agents will take orders, receipt for and forward funds, and see to return of Goods.

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MEXICAN & BRAZILIAN

EXPRESS.

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Express for HAVANA and ISLAND OF CUBA by regular steamships weekly.

Express for MEXICO and VERA CRUZ on the 10th and 16th of every month.

Express for ST. THOMAS, BAHIA, and RIO DE JANEIRO each month.

Packages received for United States Brazil Squadron.

Freights should be sent to our office day before sailing of steamer, with invoice, contents and value.

The Greatest Improvement yet in the Sewing Machine Art!

A CURIOSITY WORTH SEEING!

Please send for circular with sample of sewing.

These Improved Machines save ONE HUNDRED PER CENT. of thread and silk, and make the LOCK-STITCH alike on both sides.

They require no instruction to operate perfectly, except "the printed directions."

No change in sewing from one kind of goods to another.

And no taking apart to clean or oil.

Our NEW MANUFACTORY is now complete, with all its machinery and tools entirely new, and is already rapidly turning out Machines which for BEAUTY and PERFECTION of FINISH are not surpassed by any manufacture in the world.

N. B.—Should any Machine prove unsatisfactory, it can be returned and money refunded.

Agents wanted in counties not vassed by ur own agents.

Finkle & Lyon S. M. Co.

No. 538 BROADWAY, NEW YORK.

Gas Fixtures and House Furnishing GOODS,

E. V. HAUGHWOUT & CO.,

468, 490 and 492 Broadway.

Corner of Broome street, New York,

Manufacturers and dealers in

CHANDELIERS & GAS FIXTURES

Have a large and very choice assortment of GAS FIXTURES, which they offer at reduced prices, in view of the recent fall in gold. Their *Glass and Fire Gilt Chandeliers, are of entirely new designs,*

And well worthy of attention by those who wish to purchase

☞ *Fine Fixtures for their Houses.*

OFFICE OF WM DAVIDSON,
INSPECTOR OF GAS METERS FOR THE STATE OF NEW YORK.

☞At the above address.

Architectural Iron Works,

13th and 14th streets, near Avenue C.
BRANCH CFFICE 42 DUANE ST.,
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OFFICERS: { D. D. Badger, President.
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PRODUCTS:

Iron and Fire-Proof Buildings, Iron Fronts, Rolling Shutters, Roofs, Domes, Bridges, Railings, Verandahs, Balustrades, Stairs, Cornices, Columns, Capitals, Arches. Window Lintels and Sills, Consoles, Brackets, Rosettes, Urns, Door and Window Guards, Lamp, Awning and Horse Posts, Venetian Blinds, Patent Lights, Iron Side Walks, Rolled, Rivetted and Cast Iron Beams and Girders, and all Architectural and General Iron Work.

H. M. BAILEY, Superintendant of Works.
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GLYCERIN

For Wet Meters, Gasoline Machines, Hydraulic Presses, &c.

We warrant our Glycerine free from acid and not to corrode the Meter metal, or to congeal or freeze at a stated temperature—also, not to evaporate to any extent The advantages and savings derived from the use of our fluid can be testified by many Gas Light Companies which we have supplied. We only refer to the certificates of H. J. Miller, Esq., President of Cincinnati G. L. and Coke Co., and Dr. J. Lawrence Smith, Professor of Chemistry in the Louisville College, and President of the Louisville Gas Co.

HARTMAN & LAIST,

Office No. 71 Main street, Cincinnati —Chemical Works on Providence st, and Miami Canal, near Findlay st.

CERTIFICATE.

Office Louisville Gas Co., Louisville, June 28, 1865.

This is to certify, that the Louisville Gas Co. have used for about two years, the Glycerine prepared by Messrs. Hartman & Laist of Cincinnati, in their Wet Meters, and have in all instances found it to give most perfect satisfaction. Prior to the use of the above Glycerin, we had employed that manufactured by other parties, and we consider H. & L.'s superior to any we used.

J. LAWRENCE SMITH, President.

Office Cincinnati Gas Light and Coke Co., July 7, 1865.

This will certify, that Messrs. Hartman & Laist of Cincinnati, furnished this Company with Glycerin for Wet Meters some two years since. It has proved very satisfactory, having resisted the action of frost during two winters and evaporating not more than six per cent. per annum, as guaranteed by them. The standard being, for density, 15 deg. Beaume's scale. They were the first to introduce it practically to this Company. H. J. MILLER, President.

☞L. BRUCKMAN, 107 Warren street, up-stairs, Agent for New York.

KEROSENE

Cooking Apparatus.

All the cooking for a family can be done with Kerosene Oil, with less trouble and at less expense than by any other fuel.

Our stoves give no smoke or odor, and are not liable to get out of order, being as simple in every respect as a kerosene lamp. The Baker, Boiler, and Flat-Iron Heater are the only special articles of furniture required. For all other purposes, ordinary stove furniture may be used.

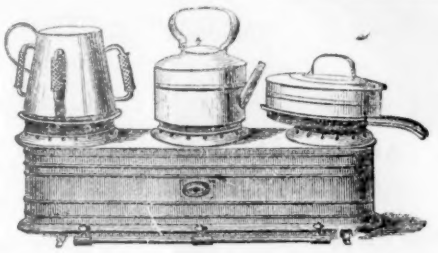
We would call attention to the fact that for the past three years, the Company has devoted itself almost exclusively to the manufacture of Kerosene Cooking Apparatus, and is prepared to guarantee that every article shall perform all that is claimed for it.

Liberal discounts to the trade. Send for circulars and price list.

KEROSENE LAMP HEATER CO.,

206 Pearl Street,

NEW YORK.



Cooking & Heating BY GAS.

CHEAPER THAN COAL OR WOOD.

The "EAGLE" Gas Heating STOVES,

Positively guaranteed free from Smoke or Smell.

Will Heat Offices, Parlors, Dining, Sleeping, and Bat Rooms. Also,

The EAGLE Gas Cooking STOVES & RANGES,

Will Boil, Broil, Roast, Bake, Toast, Stew, and Heat Irons.

The EAGLE GAS STOVES and RANGES have been in use for over Three years, and are found to be the most SIMPLE, COMPLETE and PERFECT Arrangment for HEATING and COOKING, in every respect, ever invented, and to do the Work with LESS TROUBLE, in LESS TIME and at LESS EXPENSE than any Coal or Wood stove.

Their WONDERFUL NEATNESS, CONVENIENCE and ECONOMY can be seen at a glance.

WE ALSO MANUFACTURE

COAL OIL STOVES,

For Cooking and Heating.

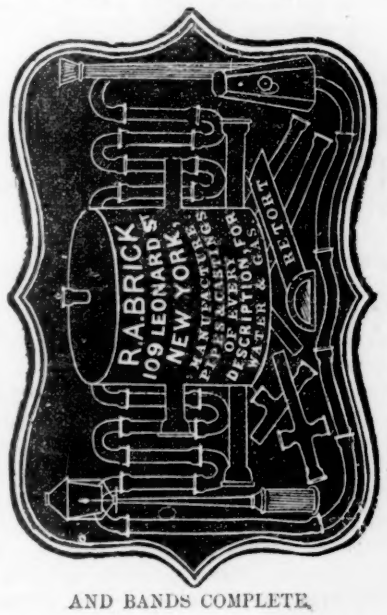
The American Advertising agency 389 Broadway, N Y. Bus. Dept., E. Alvord, cor. Dept., Fowler & Wells, receive orders for our stoves.

EAGLE GAS STOVE MANUFACTURING CO.

No. 474 BROADWAY, N. Y

☞The Company have descriptive Catalogues, which will be sent or delivered, upon application for them.

DRIVING PIPE,



BERGEN IRON WORKS,

OFFICE 109 LEONARD STREET, NEW YORK.

AND BANDS COMPLETE.

Mining & Petroleum Standard
AND
AMERICAN GAS-LIGHT JOURNAL.
Published on the 2d and 16th of Each Month
At No. 22 Pine Street, New York.

BRYANT, CALLENDER & CO.,
EDITORS AND PROPRIETORS.

Profs. PARTZ & BUCK, Consulting Chemists.

MONDAY, JULY 16, 1866.

WISHING TO MAKE this Journal an organ of intelligent discussion to those of our readers who may wish to gain or give information on the subjects to which its colums aad devoted, the publishers solicit letters from all among them who make the study of those subjects a pleasure, or a profession.

SUBSCRIBERS would confer a favor upon us by remitting CHECKS, or POST OFFICE MONEY ORDERS, as we are frequent losers where money is enclosed in letters.

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Mining Interests.

Some time since we referred to the speculations and investments made in petroleum lands and stocks, and time has shown that our suggestions and remarks were just. The complete failure and breaking up of hundreds of petroleum oil companies, leaving stockholders with nothing but certificates of stock for their investment, has exposed and rebuked the wild spirit of speculation which for a time existed. The sudden accumulation of wealth, which accrues to some of our reckless speculators as well as to shrewd and intelligent operators, induces the enthusiast to rush into anything which promises success. This spirit of speculation is not confined to particular channels; it extends from pork to gold, and frequently the basis of operations is only a myth. Thousands of barrels of pork are sold on change, which never existed, and millions of dollars in gold which is merely represented by a certificate. These sensation speculations unquestionably tend to commercial and personal immorality. The uncertainty of results, especially in gold operations, is patent to every one, yet we see at the Stock Board and on 'Change some merchants of the old school engaging with avidity amidst the "Bears" and "Bulls" in speculations. It is but justice however, to say that few of the old school merchants who are independent mingle in these speculations from day to day, but generally those only who have failed in their legitimate business, owing, in many instances, to the political disturbances of the last five years. They are anxious to retrieve their lost footing, and being rather ancient, have but little time to do it in; hence they enter into operations involving risks which they would have spurned when engaged in regular and legitimate business.

We do not assume the right to dictate a course of morals to any man or a community, but we would very much prefer that capital should be devoted only to legitimate business. We do not ignore investments upon speculation when there is a positive basis for it. Purchases of lands and other property with the expectation of realizing more than ordinary profits is legitimate, and beneficial to the advance and prosperity of our country; it is only the mythical transactions which we would discourage. When gold mining companies are organized upon a basis of a tract of land in a certain district, and specimens of ore are shown and represented as being from a vein upon it, when the said specimens were purchased in the city of New York, we modestly say we disapprove. The influence is deleterious to *bona fide* operations.

We started upon this article with the object of showing that hitherto the mining interest of our country has proved more successful in its results than any other, either in commerce, manufactures or agriculture. The percentage of success in mercantile houses, where parties have retired independently rich, is estimated as low as two and a half to three in a hundred. The manufacturing interests for many years, with but few exceptions,—and immense capital only made them so—was loss. Agriculture, while giving a good subsistence, rarely yielded much more, until the extraordinary circumstances incident to our war brought up produce to extravagantly high prices. The shipping interest has never paid well unless managed with excellent judgment and the strictest economy and industry. All these branches of business have been presented openly to the community, with charts showing the dangers which surround them, and the rocks upon which operators have split. In mining business it cannot be so, because experience has not been so universal, nor the means of positive knowledge of certain facts so easily obtained as in relation to subjects familiarly known in all their details for many years. Yet the profits from mining enterprises, whenever equal capital, intelligence and energy have been at command, have very far exceeded those from any other branches of business named. True it is there are millionares in New England, in New York, Pennsylvania, New Jersey, and other States of our country who have made their wealth from manufacturing; but thousands have fallen by the wayside while these successful men have been progressing with their immense capital and influence. See, in contrast, how small have been the actual cash investments made in mining operations in comparison, and see the millions in gold which have been produced from California alone. Had it not have been for the *bogus* companies which infested the country while successful operations were being enjoyed by every *bona fide* enterprise, millions of dollars more would have been invested and corresponding profits realized. The impositions practiced upon confiding capitalists discouraged—and yet discourages—prudent people from investing in mining enterprises, when with proper discretion they would have been safe and profitable. At this time there are many mining enterprises languishing for capital which if supplied to them would produce results exceeding any reasonable requirements, and some of them within a few days journey of our city. If the question is asked which they are, it can be answered satisfactorily by discreet investigation. At no time previous to the present have more sure advantages for investment in mining enterprises offered than now. The plethora of speculation has subsided, and we can now look at a specimen of coal, quartz, or even a big nugget of pure gold without having a fever of excitement.

"ECONOMY IS WEALTH," and where convenience and economy are combined a double advantage arises. A coal oil lamp that can be burned without a chimney seems to exemplify both propositions.

Travellers, tourists, miners, and all who dislike to travel in darkness will find a "pocket lantern" just the thing. We cheerfully recommend all who are interested to visit the establishment of the New York Lamp Co., 259 Pearl street.

PETROLEUM IN ULSTER COUNTY.—The Ellenville *Journal* says: "There are indications of a fresh petroleum excitement among us, the basis therefor being nothing less than the discovery this (Friday) morning, of springs from which flow in small quantities crude petroleum, on the dry dock premises of Mr. George Hoar, in this village. We have been shown a quantity of the petroleum—the genuine article, beyond question—by Mr. Hoar, who says he has long suspected its existence in the neighborhood, and more than once observed particles floating on the water. While cleaning out and repairing the dry dock during the past week, the springs were discovered."

The time here mentioned was some three weeks ago, and as we hear nothing further about the discovery, we must conclude the "excitement" and the springs have both subsided.

NEW HYDRAULIC GAS MAIN.—We present on the first page of this number a diagram of a new plan of hydraulic main for gas works, the invention of I. N. STANLEY, Esq., of Brooklyn, N. Y., for which he has obtained a patent right. It certainly is graceful in form, and appears to provide every necessity at a decreased expense. We are gratified to see any improvement in gas manufacturing, or for economy in apparatus, and most sincerely hope for Mr. STANLEY great success in this important matter.

THE CITY DIRECTORY.—TROW'S New York City Directory, compiled by H. WILSON, 52 Greene St., for the year ending May 1st, 1867, was placed in the hands of the public, *and in ours*, in good season, and certainly does credit to the compiler and publisher. It fully meets the requirements of the public, and the "inquiring mind" can rely upon getting full and accurate information upon the various subjects embraced in this exceedingly valuable work.

We understand the same parties are about to issue a General Business Directory, which, it is safe to conclude, will excel anything of the kind heretofore published.

THOMPSON'S GAS CONTROLLER.—We are requested to give notice that Mr. JOSEPH LEES, of San Francisco, Cal, is the sole agent for the sale of Thompson's Gas Controller in California and Oregon.—Thompson's Gas Controller being the only self-acting one invented, proves a great economist wherever there is any extra pressure of gas, besides giving more illuminating power consequent upon the perfect combustion of the gas which passes through the burner.

WE INVITE the attention of our readers to the advertisement of Chas. H. Reichman, in this paper. The many advantages in heating, cooking, etc., with petroleum are apparent when we consider convenience, cleanliness and economy. Mr. Reichman's combined nursery and night lamp is a strong practical argument in this connection, as we know from experience.

MESSRS. HAUGHWOUT & Co., No. 488, 490, 492 Broadway, have a magnificent stock of goods in their extensive branches of business, and it is well worth a visit to their establishment if only to see the beautiful specimens of art and science there congregated. Being manufacturers of a large portion of their stock, and importing in large quantities, they are enabled to sell at the lowest prices.

WE WOULD suggest to our subscribers who desire to have our Journal bound, to preserve carefully all their numbers, because we find ourselves unable at the end of every year to supply the applications for deficient numbers to complete volumes.

PATENT CLAIMS.

Pertaining to Gas, Mining, Petroleum, Water, etc.

For the two weeks ending July 3.

55,994.—Gas-purifier.—Richard C. Bocking, Indianapolis, Ind.

I claim, 1st, The combination of the liquid reservoir, tube, B, and the wheel provided with vanes having reticulated surfaces, and revolving on a horizontal axis under the impulse of the entering gas, substantially as described.

2d, The mode of having the said wheel in orifices in the sides of the chamber, capped on the outside as described.

3d, The combination with the series of reticulated vanes of their hands, supported on the vanes by the pins or equivalent means.

55,995.—Quartz Mill.—John T. Bonnell, Columbia, Cal.

I claim the drum, C, provided with ratchets, D, D, and a pendant, A, with a weight or bob, o, attached in combination with the spur-wheels, E, E, placed loosely on the shaft of drum, C, and provided with pawls, F, to engage with the ratchets, D, the above parts being used in connection with the pinions, I, I, on the shafts, J, J, which actuate the weight or pounder-rods, L, substantially as and for the purpose specified.

56,028.—Desulphurizing Gold and Silver Ores.—Anthony L. Fleury, Pittsburg, Pa.

I claim, 1st, To treat sulphurets containing gold or silver to the way and for the purpose specified.

2d, The compound obtained, denominated as metalliferous coke, when prepared as above specified.

56,047.—Quartz Stamp-mill. — Alexander Herdlein, Egan Cañon, Nevada.

I claim, 1st, The double-armed levers, F, in combination with the stampers, E, and cranks or other equivalent devices on the driving-shaft, C, constructed and operating substantially as and for the purpose described.

2d, The hinged tappets, i, in combination with the adjustable heads, G, levers, F, and stampers, E, connected and operating substantially as and for the purpose set forth.

56,107.—Carbon-oil Fire-tester.—George E. Shaw, Pittsburg, Pa.

I claim, 1st, The water-bath, D, with its double casing, F, and top, E, as described, and the pipe, C, for the purpose of obtaining heat from the bottom only, as specified.

2d, The combination of the two thermometers, M and N, with the water-bath, D, and oil-cup, H, for the purpose specified.

3d, The shield, P, with its notch, Q,

4th, The combination of the pivoted lever fire-brand holder, R, with the ring and rod, S, and the spring, T, arranged as described and acting as specified.

56,108. — Quartz-crusher.—Thomas Shaw, Philadelphia, Pa,

I claim the employment of metal balls secured by chains to a revolving wheel, the whole constructed and operating for the purpose described.

56,116.—Treating Gas for Illumination and other purposes.—Levi Stevens, Fitchburg, Mass.

I claim, 1st, The combination of two or more gas-meter wheels, propelled by gas or other power, for the purpose of carbonizing atmospheric air and super carbonizing ordinary illuminating coal-gas, so that when combined and mixed the whole will become an illuminating-gas, substantially in the manner and for the purpose described.

2d, The combination of two or more gas-meter wheels, propelled by gas or other power, with a chain elevator, and all with a tank or reservoir for holding hydro-carbon and for receiving and mixing super-carbonized gas and carbonized atmospheric air for the production of illuminating gas, in the manner and for the purposes described.

3d, The combination of two or more gas-meter wheels, propelled by gas or other power, with a chain elevator, a, and the receiver, C, and all with the reservoir, A, in such manner that the gasoline or other hydro-carbon may be kept at the desired height in the cases of the gas-meter wheels, in the manner and for the purposes set forth.

56,121.—Process for refining Oil.—E. G. Sutherland, San Francisco, Cal.

I claim the within described process for extracting and refining oil from whales and other marine animals and fishes, all substantially as described and for the purposes set forth.

56,143.—Apparatus for producing and burning the Gases from Petroleum and Water.—Alva J. Griffin, Lowell, Mass., assignor to himself and Wm. T. Vose, Newtonville, Mass.

I claim, 1st, Constructing the chamber, A, with a longitudinal partition, K, and lateral ribs, H, elevated and depressed at alternate ends, substantially in the manner and for the purpose set forth.

2d, In combination with the chamber, A, divided into two compartments by a central partition, I claim the pipes, D and E, when constructed and arranged in relation to the chamber, A, and to one another, as and for the purpose set forth.

56,150.—Quartz-crusher.—S. B. Pike, assignor to himself and Robert H. Vance, San Francisco, Cal.

I claim, 1st, The use of the guides, L, L, when arranged as described, to insure the passage of all the ore under the rollers, substantially as herein specified and for the purpose set forth.

2d, The employment of the horizontal bar, H, hub, I, and slotted boxes, K, K, or their equivalents, for the purpose of allowing the rollers, F, F, to accommodate themselves to the varying amount of ore on the revolving plate, B, and die, C, substantially as described and for the purposes as set forth.

3d, The gutter, D, operated by the binders, Y, Y, and keys, X, X, in combination with the revolving plate, B, B, rollers, F, F, guides L, L, annular die, C, and scrapers, when constructed to operate in the manner specified and for the purposes set forth.

To Gas Engineers.—We have inquiry for a gas engineer to take charge of a medium size works. Engineers desiring such a situation should send their address to this office.

FOR SALE.

A SET OF PURIFYING BOXES, NEARLY 5 feet in diameter within, with covers and hoisting apparatus, center seal, coanecting pipes, &c, with six inch openings; as good as new and in perfect order.

Offered at a low price on account of being too small for the works. Apply to or address

NEWBURGH GAS LIGHT CO.,
158 Newburgh, N. Y.

PARTZ & BUCK

MINING ENGINEERS, METALLURGISTS

AND

ANALYTICAL CHEMISTS,

57 BROADWAY,

A. F. W. PARTZ, C. ELTON BUCK, NEW YORK.

MAYNARD & TIEMANN,

Mining Engineers & Metallurgists

240 PEARL ST., NEW YORK,

—AND—

CENTRAL CITY, COLORADO.

G. W. Maynard. J. H. Tiemann.

CHAS. HOWDON SMITH,

BROKER IN MINING STOCKS

AND OTHER SECURITIES,

No. 5 1-2 Pine Street,

ROOM NO. 5, NEW YORK.

GEO. H. BRONSON,

132 Maiden Lane, New York,

Dealer in

Paraffine Machinery Oil,

From Pure Cannel Coal, adapted to all classes of

Stationary Machinery, Locomotive Engines, Railroad Cars, Woolen Factories, Cotton Spindles, Sewing Machines, &c.

Paraffine Wax and Paraffine Wax Candles. Also the best brands of Burning Oils. All Oils guaranteed to answer the purpose for which they are recommended.

57 80

T. CASSIDY & CO.,

(SUCCESSORS TO P. CASSIDY,)

Dealers in Old and New

IRON, COPPER, BRASS,

LEAD, SPELTER, &C.,

Corner of Bridge and John Streets,

BROOKLYN.

☞ N. B.—The highest cash price paid for the above named articles.

T. CASSIDY. 57-80 J. PEARCE.

W. W. WINCHESTER,

IMPORTER and **SOLE AGENT** for the United States and Canadas of SCHWARZ'S

GERMAN LAVA GAS TIPS,

And Proprietor of WINCHESTERS' Improved

LAVA TIP GAS BURNERS,

No. 144 State Street,

Albany, N. Y.

NEW YORK LAMP COMPANY,

259 Pearl Street, New York.

We Would call especial attention to our recently improved

UNION BURNER,

which now burns without smoke or odor. With Coal or Petroleum Oil makes the cheapest light known,

One Cent for Eight Hours.

The improved Union Burner without chimney, for a hand or portable night lamp is unrivalled.

Patented in the United States, England, France and Belgium.

NEW YORK LAMP CO.,
58 259 Pearl-street, near Fulton, New York.

Something New and Useful.

A POCKET LANTERN, which, when folded, occupies the space of a cigar case, and when open gives a good light. The most convenient article for any one who is liable to be out at night. Sample sent by mail on receipt of one dollar.

Address

NEW YORK LAMP CO.,
57 259 Pearl-street, New York.

The Aladdin No-Chimney Burner

GIVES A BRILLIANT LIGHT WITHOUT THE use of a chimney. Fits on to almost all kerosene lamps. It is the best no-chimney burner made, and no family should be without them. Samples sent by mail on receipt of 50 cents.

Address

NEW YORK LAMP CO.,
57-62 259 Pearl-street, New York.

CHARLES H. REICHMANN,

Manufacturer and Jobber of

LAMPS,

Petroleum Stoves, &c.

AND IMPORTER OF

Porcelain Shades,

WICKS, &C.,

No. 45 Fulton St.,

[Bet Pearl and Cliff]

NEW YORK.

ALL ORDERS promptly filled for his Patent Petroleum Stoves or Lamp Heaters, which are acknowledged to be superior to any other article of the kind now in use, as regards economy in consumption of oil, as well as simplicity of construction.

These Cooking Apparatus are used like any coal oil lamp, being provided with a sheet metal chimney, in consequence of which they burn without odor or smoke. They radiate no heat into the room, and are therefore very desirable in hot weather.

Also, Nursery and Night Lamps combined, a superior and cheap article for nursery or sick room; has a kettle, cup and pan, complete.

NATIONAL FOUNDRY

AND PIPE WORKS.

Office and Works—Carroll, Pike, Smallman and Wilkins Streets,

PITTSBURGH, PA.

WM. SMITH,

Manufacturer of all kinds of GAS and WATER PIPE, BRANCHES, CONNECTIONS, T's, ELBOWS, and ALL CASTINGS USED AT GAS AND WATER WORKS.

I offer special inducements to parties wishing to purchase, my Pipe is Smooth, regular in weights, and cast vertically.

N. B.—Pipe from 3-inch and upwards, cast in 12-ft. lengths.

☞ SEND FOR CIRCULAR AND PRICE LIST.

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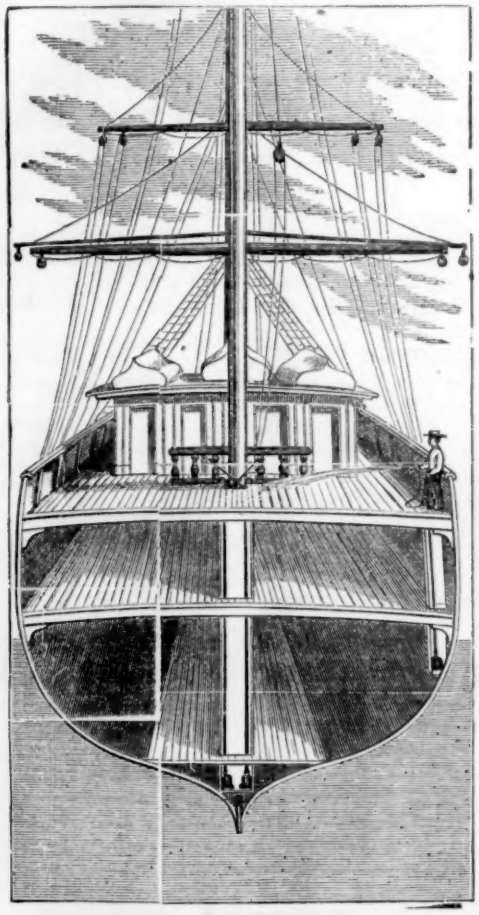

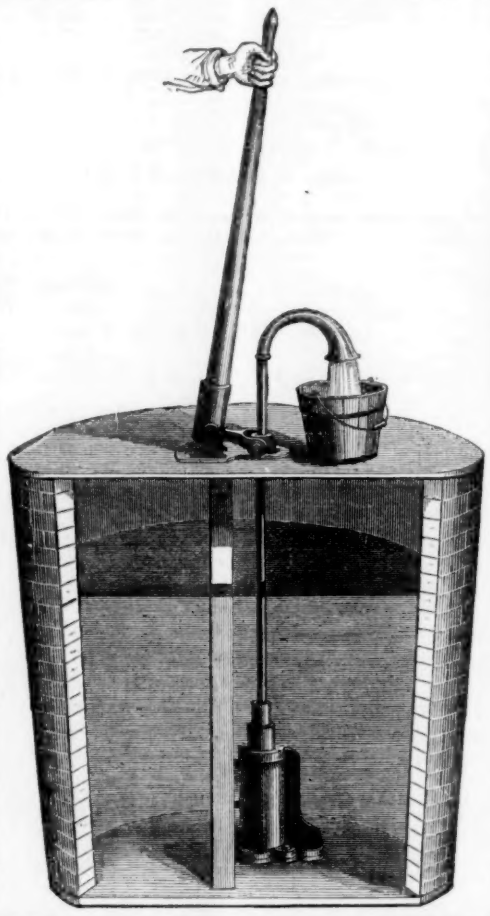

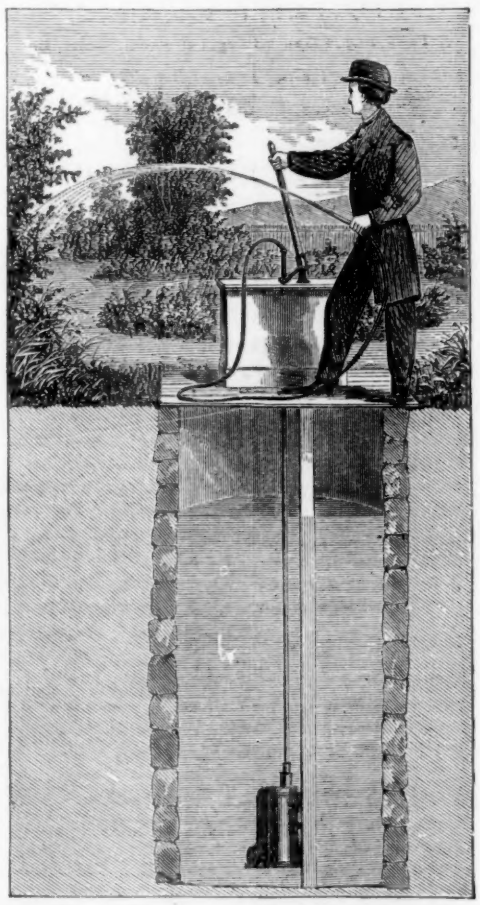

AMERICAN PUMP MANUFACTURING COMPANY,

DEPOT NO. 40 DEY STREET, NEW YORK.

A. B. VAN OLINDA, Secretary. C. V. B. OSTRANDER, Treasurer. E. BEADLESTON, President.

STATE AND COUNTY RIGHTS FOR SALE.

Pumps, completed, will be delivered from the manufactory of the Company, to parties purchasing rights at a royalty of One Dollar each.

THE PATENT SUBMERGED PUMP.

This valuable Invention, now first introduced, will, it is believed, supersede all classes for any purpose in use at the present time.

ITS ADVANTAGES.

FIRST.—SIMPLICITY. The entire pump is composed of but six parts, all of cast-iron, which can be put together by any mechanic.

SECOND.—DURABILITY. From the fact that it is always submerged, it is perfectly lubricated, and requires no packing As no water can remain in the pipe when not in motion, there is no danger of freezing.

THIRD.—CAPACITY. It is contended that, for the power applied, this Pump excels all others. The No. 1 (the smallest size,) of this Pump, with the power of one hand, has a capacity of thirty gallons per minute, and will throw a stream seventy feet in the air.

FOURTH.—CHEAPNESS. For economy, this Pump surpasses all others, its first cost being about one-third less than that of other Pumps of the same capacity, and being much less both in size and weight, there is a great saving in transportation.

ITSU SES.

FIRST.—For a House Pump; the smallest size of the patent Submerged Pump is sufficient for all family purposes. Placed in a well or cistern, water may be conveyed to every room in a common sized house.

SECOND.—For a Farm Pump; for all purposes connected with irrigating, watering stock, etc., etc. This Pump can be placed in running streams, ponds, bayous, etc., and water conveyed to any required distance.

THIRD.—For a Ship Pump; Any ship owner or captain, with short experience in the use of this Pump, will give his unqualified approval for ship purposes, either to be used as a bilge pump simply, or for washing decks, etc. From its simplicity, as a bilge Pump it will be found entirely free from choking, and will clear grain, dirt, stones, etc., with ease.

FOURTH.—For a Factory Pump, or for air in Oil Wells, for Breweries, or for pumping acids, hot liquors, etc., it is invaluable. It cannot be affected by any liquid.

FIFTH.—To all Directors and Officers connected with mining interests, the PATENT SUBMERGED PUMP presents great advantages.

The experience of the last five years have clearly proved at what great expense, both in first cost and freight, it has been necessary to be at to secure the proper means of expelling water from the mines, quarries, etc. With this Pump an immense saving is effected in both instances, as in first cost it is much less than other Pumps of the same capacity and power.

Its principle is that of a Double-acting Force Pump, with a heavy double-acting piston cast in one piece, and a double-acting iron valve within the same, without the use of leather valves or any packing whatever.

DIRECTIONS FOR ADJUSTING PUMPS.

1st. Find the exact measurement of the well or cistern from the extreme bottom to the top or curb, after which make such an allowance as may be required, above the curb or top, as will accommodate the sized vessel required, to be used, and in respect to the quantity of pipe required, always deducting for the length of the Pump and the space between the bottom and the Pump. 2d. Provide a plank, to which the Pump must be secured, not less than seven inches wide by two or two and a half inches thick, which should reach from the bottom to the top of the well or cistern, always placing the plank on the side of the well or cistern. 3d. Before putting the plank into a well or cistern, fit and bolt the Pump to the plank, and screw the pipe firmly in, taking care to have the Pump not less than one foot from the bottom of a well, nor less than six inches from the bottom of a cistern. Yet, if the water be six feet deep in a well, then adjust the Pump three feet from the bottom, and in like proportion as the case will permit, always being governed by the depth of water in the well, and always observing the necessity of securing the plank at the bottom of the curb, by braces across the well, and standing perfectly plumb and solid under the platform orcovering of the well, when the fulcrum can be fastened to the platform, taking care to give the pipe free action when in motion.

MANHATTAN

Fire Brick & Enamelled Clay Retort Works,

MAURER & WEBER,

(Of the late firm of B. Kreischer & Co.)
PROPRIETORS.

Office & Works in 15th street, Avenue C,

MANUFACTURERS OF

Fire Brick and Tiles,

OF ALL SHAPES & SIZES,

Fire Mortar, Clay and Sand.

☞Articles of every description made to order, at short notice. (135

HY. MAURER. ADAM WEBER.

NEW YORK

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☞ *Established in* 1845, ☜

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GAS RETORTS, TILES and FIRE-BRICK of all shapes and sizes.
FIRE MORTAR, CLAY, and SAND.
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—AND—

FIRE BRICK WORKS,

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JOSEPH K. BRICK, EDWARD D. WHITE.

J. H. GAUTIER & CO.,

MANUFACTURERS OF

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Black Lead Crucibles, and Carburet of Iron Stove Polish,

JERSEY CITY, N. J.
Refer to—Manhattan Gas Light Co., New York. [135

Philadelphia Fire Brick Works,

Corner of Vine and Twenty Third sts., Philadelphia,

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Manufacturer of all kinds of FIRE-BRICK, GAS-HOUSE TILES, to suit all the different plans in use. Clay Retorts and Dentists' Muffles. Orders filled at short notice.

PRINCE'S METALLIC PAINT,

AN INDESTRUCTIBLE COATING FOR

IRON, TIN, and WOOD.

It consists of seventy-two parts Oxide of Iron, and twenty-eight parts Cement Lime Stone in the one hundred pounds.

It has much more body than red or white lead. It is warranted perfectly water and fire-proof and to withstand a greater heat on metals, without scaling, than any other paint in use.

It is a perfect cover for all kinds of iron, tin, or wood-work, out-houses, and canvas coverings. It prevents and arrests the corrosion of metals, and is not affected by the action of salt, gases, acids or ammonia.

It hardens under water, as has been fully demonstrated by its application to gas-holders, by many of the largest gas companies in the United States; which companies having thoroughly tested its properties as herein claimed, pronounce in its favor over any other paints in the market, even though said at double its price.

As a coating for patterns of iron or wood, when mixed with shellac, it is much superior to beeswax, oil, or shellac alone, as has been proven at the large founderies in the country.

For patching boilers and making joints, it is considered superior to red lead, or any other preparation.

For cleaning metals it takes the place of crocus, ouge, and emery, being better and cheaper.

This Paint requires no more oil than dry lead or zinc, and much less than the ordinary mineral paints. It is free from any waste, and possesses a spreading and covering power unequaled.

Terms, by the Barrel or Half Barrel, Five Cents per Pound.

A liberal discount made to parties purchasing by the ton.

A Barrel or Ton will be forwarded to any gas companies desirous of testing its qualities, for which there will be no charge if it does not give entire satisfaction as being the cheapest and most durable of all other Paints in the market.

Also, Prince's Imperial Black Paint, and Prince's Protoxide of Iron.

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Local Agent—CALVIN GAY, 29 Federal st., Boston.

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AMALGAM BELLS,
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AMALGAM BELLS

At prices within the reach of every Church, School, Cemetery, Factory, or Farm in the land. Their use throughout the United States and Canadas for the past six years has proven them to combine most valuable qualities. Among which are TONE, STRENGTH, SONOROUSNESS, and DURABILITY OF VIBRATION, unequalled by any other manufacture. Sizes from 15 to 5,000 lbs., costing TWO-THIRDS LESS than other metal, or 25 cents per pound, at which price I warrant them twelve months. Old bell metal taken in exchange, or bought for cash. Send for a circular to the manufacturer,

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List of Academy, Steamboat, Fire-alarm, and Church Bells, with particulars as to Weight, Sizes, Price of Bells, Hangings, etc.

Weight of Bells.	Diameter.	Price of Bells without Hangings.	Price of Patent Hangings.	Price of Bell and Hangings complete.
225 lbs.	26 inches.	$56 00	$15 00	$71 00
275 "	42	69 00	18 00	87 00
375	36	94 00	22 00	116 00
450	34	112 00	25 00	137 00
600	02	150 00	30 00	180 00
750	39	188 00	35 00	225 00
1,000	64	250 00	42 00	292 00
1,200	48	300 00	45 00	345 00
1,400	50	350 00	50 00	400 00
1,600	52	400 00	54 00	454 00
1,800	55	450 00	60 00	510 00
2,000	58	500 00	62 00	562 00
2,500	60	625 00	72 00	697 00
3,000	63	750 00	85 00	835 00
3,500	66	875 00	87 00	962 00
4,000	69	1,000 00	100 00	1,100 00
4,500	72	1,125 00	113 00	1,238 00
5,000	75	1,250 00	125 00	1,375 00

List of Prices, Weights, and Sizes of Farm, Hotel, Steamboat, Schoolhouse, Shop, and Factory Bell.

These Bells are fitted with Yoke, Standard's Crank and Bolt, complete for use.

Weight of Bell and Hangings.	Diameter.	Cost of Bell and Hangings complete.
15 lbs.	7 inches.	$3 75
20	8¼	5 00
35	10	8 75
50	12	12 50
75	16	18 75
100	18	25 00
150	20	37 50
200	22	50 00
250	24	62 50

Larger Sizes made to Order at 25 cents per pound.

Guarantee.—All Bells sold at the above prices WARRANTED against breakage by fair ringing, for TWELVE MONTHS from time of purchasing. Should one fail, a new bell will be given by urning the broken one.

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In case a Bell breaks after the expiration of the Warrantee, I allow HALF PRICE for the old metal. JOHN B. ROBINSON, 86 Dey Street, N. Y.

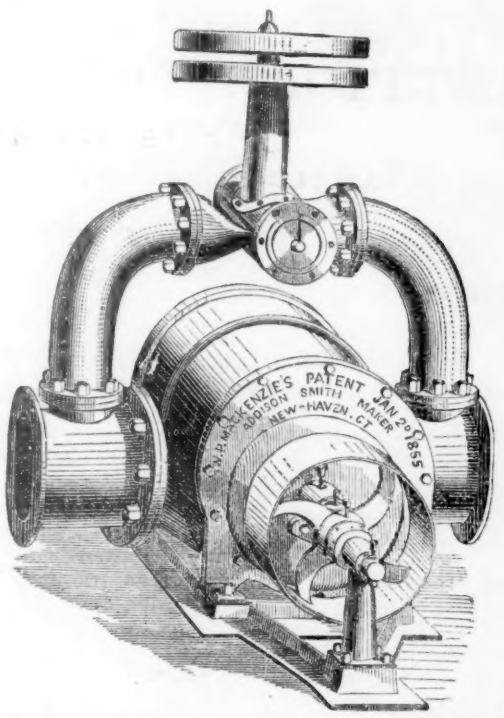
SMITH & SAYRE,

MANUFACTURING COMPANY.

THE MACKENZEI PATENT GAS EXHAUSTER

AND

PATENT COMPENSATOR.



They are made to pass from 4,000 to 150,000 cubic feet of gas per hour; will increase the production and illuminating power of the gas, and add very much to the durability of the retorts, either clay or iron. The Compensator obviates entirely the necessity of water-joints, is compact, durable, cleanly, not liable to get out of order, self-acting, quiet, and certain in its operation.

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The Blower is a Force Blast machine, durably built, and can be driven with one-third the power required to drive the ordinary Fan. The Cupolas are manufactured in sizes to melt from 1 ton to 20 ons per hour, will save one quarter of the time required by the old style Cupola, and 33 per cent. fuel. Address

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REVERSIBLE ROLLER MILL,

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Adapted to All Kinds of Power.

Unequalled for utilizing power—avoiding friction and wear,—rapidity of work, and facility of transportation and adjustment. Also, **Hitchcock's Adjustable Tubular Flue-cleaning Boiler,** and other valuable Patents, for which license to manufacture will be granted on reasonable terms.

Circulars furnished on application.

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This Meter is also used for the measurement of Oil —it combines

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Six years in general use in works using it, to the exclusion of all other fluid, and driving the dry meter out of use, enables us to recommend the patent with perfect confidence.

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A large assortment of Railing Castings constantly on hand, or made to order, at the shortest notice.

Lamp Posts—Brooklyn Pattern.

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Malleable Iron Retort Lid.

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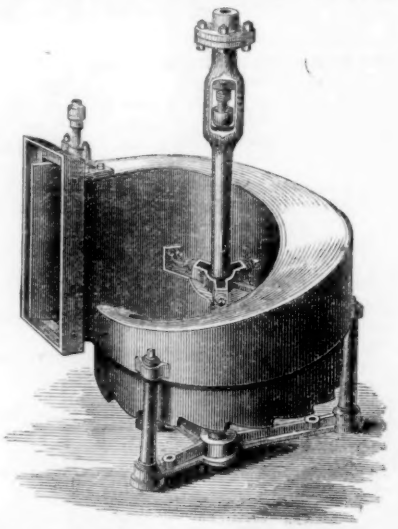

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With the greatest economy and facility, and without heating the room in which they are used. They are perfectly simple, operating like an ordinary Kerosene Lamp with a chimney, and are the only Kerosene Stoves that burn without smoke or odor.

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Send for Illustrated Circular. (136

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We offer the public the simplest, strongest and best Knitting Machine in the world.

It occupies but little space—is portable and can be attached to a stand or table, weighs about 40 lbs.

It will knit a variety of Stitches—the breakage of needles is trifling—the cost of needles is insignificant and the most delicate material can be knit pure and spotless, as the needles are not oiled.

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Has only to be seen and operated to be Appreciated.

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SUPERIORITY.

over any other Machine in the market will be seen at a glance.

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with so little trouble, makes it equal, if not superior, to six machines combined; for instance. it Binds, Hems, Tucks and Sews on the band at the same time, and in face, the

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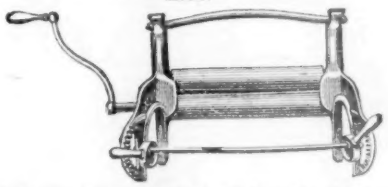
PUTNAM'S CLOTHES WRINGER.

IT IS THE ONLY RELIABLE

Self-Adjusting Wringer.



No Wood-work to Swell or Split. No Thumbscrews to get out of order. Warranted with or without Cog-wheels.

It took the First Premium at Fifty-seven State and County Fairs in 1863, and nearly double that number in 1864, and is, without an exception, the *best* Wringer ever made. Patented in the United States, England, Canada, and Australia. Agents wanted in every town, and in all parts of the world. Energetic agents can make from $3 to $10 per day.

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That Iron well galvanized *will not rust.*
That a *simple* machine is better than a complicated one.
That a Wringer should be *self-adjusting, durable, and efficient.*
That thumb-screws and fastenings cause *delay* and *trouble* to regulate and keep in order.
That wood soaked in water will *swell, shrink,* and *split.*
That wood-bearings for the shaft to run in *will wear out.*
That the Putnam Wringer, with or without cog wheels, will *not tear the clothes.*
That cog-wheel regulators are not essential.
That the Putnam Wringer has *all* the advantages, and *not one* of the disadvantages above named.
That all who have tried it pronounce it the *best* Wringer ever made.
That it will wring a thread or a bed-quilt *without alteration*

We might fill the paper with testimonials, but insert only a few to convince the skeptical, if such there be; and we say to all, *test* Putnam's Wringer. Test it *thoroughly* with *any* and any others, and if not entirely satisfactory, return it;

PUTNAM MANUFACTURING CO.—*Gentlemen:* I know from practical experience that iron well galvanized with zinc will not oxydize or rust one particle. The Putnam Wringer is as near perfect as possible, and I can cheerfully recommend it to be the best in use. Respectfully yours,

JOHN W. WHEELER, Cleveland, O.

Many years' experience in the galvanizing business enables me to indorse the above statement in *all particulars.*

JOHN C. LEFFERTS, No. 100 Beekman St.

NEW YORK, *January*, 1864.—We have tested Putnam's Clothes Wringer by practical working, and know that it will do. It is cheap; it is simple; it requires no room, whether at work or at rest; a child can operate it; it does its duty thoroughly; it saves time, and it saves wear and tear. We earnestly advise all who have *much* washing to do, with all intelligent persons who have *any*, to buy this Wringer. It will pay for itself in a year at most. HORACE GREELEY.

PRICES—$8, $9, and $10.
Sample Wringers sent, express paid, on receipt of price.
Manufactured and sold, wholesale and retail, by

PUTNAM MANUF'G CO.,
13 PLATT STREET, New York,
BENNINGTON, Vt.,
CLEVELAND O.

WATER AND GAS PIPE.

The Boston Bituminized Pipe Company,

Are now manufacturing and prepared to take orders, for their PATENT PIPE, (from 2 to 12 inches in diamter,) as a substitute for Iron, Copper, Lead, &c., for the conveyance of WATER, GAS, SEWERAGE, &c. &c.

From the testimonials received, and the entire satisfaction it has given those having it in use, we feel warranted in claiming for this pipe over that of any other, the following advantages, viz:

It is much CHEAPER—has great strength (it having been tested to 500 lbs. to the square inch,) combined with LIGHTNESS, costing less for transportation; the joints are easily made and perfectly tight; it does not expand or contract from different degrees of temperature, and is free from *CORROSION* or *CONCRETIONS* forming; does not impart any taste or injurious properties to water, and as far as anything can be said to be indestructible, we deem this to be.

As a GAS PIPE, we say it has no superior. The Lowell Gas Light Co., purchased and laid some of this Pipe last year, and have likewise subjected samples to a test of four month's duration in their dry lime purifiers, with the most satisfactory results, in fact establishing beyond a doubt, its perfect adaptation to the wants and requirements of Gas Companies. specimens of which, together with the statement of E. Cushing, Esq., Agent Lowell Gas Light Co., who made these experiments, I shall be pleased to show, and give all other needed information, by applying in person, or by letter, to JOHN L. WEBSTER, Treas.,

Boston Bituminized Pipe Co.,
127] No. 2 Pearl st. House, Boston.

AMBROSE SPENCER GILCHRIST.
(LATE CAPT. U. S. V.,)
CIVIL, MINING
AND ARCHITECTURAL ENGINEER,
No. 200 BROADWAY, Office 12.
New York.

New York, April 18th, 1864.

* * * * * *

We respectfully invite your attention to and consideration of the justly celebrated and reliable remedy for DYSPEPSIA, HEARTBURN, DEBILITY and PROSTRATION. The Proprietors are proud to acknowledge the unparalleled success which has attended the sale of their valuable preparation, known in nearly every portion of the civilized world as the

"GOLDEN BITTERS."

We risk nothing when we term them a *valuable preparation,* for they are one of the few articles of the present day which are not a humbug; and we are willing and able to satisfy any person or persons who will call upon us, that the celebrated "GOLDEN BITTERS" are a genuine *bona-fide hygienic* article. It is the wish of the proprietors that the virtue of the article be tested before condemning. A decision of their merits by any one who has tried them, is worth a million of purchased bogus testimonials.

For Creating a Healthy Appetite

they are invaluable, and are unequalled as a TONIC. They are mild in their action, and operate by giving *vigor* and *strength* to the system,—not by any change they produce in the solids, but through the medium of the living principle.

They are Purely Vegetable,

being composed of Gentian Root, Calamus, Sassafras, and many other remedial agents of the Vegetable world, all preserved in Jamaica Rum and Sherry Wine.

As a Beverage

They are the most *wholesome, invigorating* and *palatable* stimulant ever offered to the public And the fact of their being prepared chemically and scientifically, precludes the possibility of a bitter, unpleasant taste, common to Bitters generally offered for sale. We especially recommend them to LADIES, and particularly to those suffering from

DEBILITY, WEAKNESS, AND PROSTRATION.

Half a wine glass of these "Bitters" three or four times a day, will produce a remarkable healthy change in persons greatly debilitated.

The "Golden Bitters" have been tried and not found wanting. They are put up in our own *Patent* quart bottles, and for sale by Druggists, Grocers, &c., throughout the world. Each bottle bears a fac-simile of the signature of Hubbel & Co.

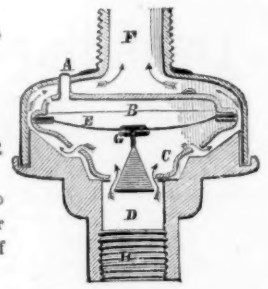
GEO. C. HUBBEL & Co, Sole Proprietors
CENTRAL DEPOT, American Exp. Building, New York.

THE GOLDEN BITTERS.—We are not an advocate of stimulants or an alcoholic character; indeed we deprecate this "daily tonic" idea—this "morning toddy" which we see offered in all sorts of shapes as a recuperator, invigorator, revitalizer, &c. As a rule all artificial stimulants are dangerous remedies, and must be taken into the system as you would mercury or arsenic, in very small doses. But we have had an opportunity to try the now well-advertised article known as Hubbel's Golden Bitterz, and are frank to say that where the system needs building up, where a stimulant is required to aid nature in restoring a lost appetite and infusing a vigorous action to the debilitated functions, we can recommend these Bitters. Hubbel's Golden Bitters are evidently intended to improve the debilitated human system, rather than to tickle the palate, and are, therefore a harmless and safe remedy to keep in the house.—*New York Weekly Day Book.*

NOTICE TO GAS COMPANIES AND GAS CONSUMERS.

THOMPSON'S PATENT GAS CONTROLLER,

The only Self-Acting Gas Controller, Regulator, and Burner Combined which has ever been invented, or known to science.



THE PRINCIPLE UPON WHICH THE THOMPSON'S AUTOMATIC GAS CONTROLLER works is one well known to mechanics, and is simple in its operation.

Within the circumference of a small cylinder below the burner is placed a conical valve attached to a movable diaphragm. The diaphragm rises or falls as the pressure of gas from the pipe is lesser or greater, and the valve acts upon the valve-seat with such regularity of movement that in a difference of from five-tenths of an inch pressure to five inches the variation in flame is hardly perceptible.

The simplicity of its machinery and the nature of the material used in its construction insure its regular action and durability.

In consequence of the uniform quantity of gas which passes the Controller to the burner, there is no waste, and a steady, soft flame is produced, which is important to all who read, write, or work by gas-light. The unsteady flickering blaze which invariably exists when the pressure of gas is beyond the requisition for consumption, has injured the sight of thousands who have been subjected to it.

For street lamps these Controllers are especially valuable, because the pressure varies materially during the night, and in consequence there is a waste of gas, and the light variable.

Improvements have lately been made in the mechanism of the Controller which makes them almost a perfect meter to each ourner, and they are now offered to he public with more confidence than ever before.

Reference is permitted to the following named gentlemen—

Col. CHAS. ROOME, President Manhattan Gas Company, N. Y.
C. H. SAND , Esq., President Metropolitan Gas Company, "
J. H. ADAM, Esq., President New York Gas Company, "
PETER COOPER, Esq., Cooper Institute, "
JOHN A. DUFF, Esq., Olympic Theatre, "

GEO. H. KITCHEN, Inspector of Gas Meters, N. Y
A. L. BOGART, Esq., Gas Engineer.
Col. J. A. SABATTON, Engineer Manhattan Gas Company.
Col. A. J. WHITE, Engineer Metropolitan Gas Company.
J. K. SIMPSON, Esq., Engineer Cooper Institute.

Persons interested are invited to call at the Office, 28 Liberty street, where they can see the operation by pressure guage and test meters]

M. L CALLENDER, Agent
Office, 22 PINE STREET.

JOSEPH LEES, San Francisco, Agent for California and Oregon.

THE AMERICAN METER CO.

Organized under the General Manufacturing Laws of the State of New York

SAMUEL DOWN, PRESIDENT. HENRY CARTWRIGHT, VICE PRESIDENT. RICHARD MERRIFIELD, SECRETARY AND TREASURER

TRUSTEES.

SAMUEL DOWN, WILLIAM HOPPER, R. H. GRATZ, HENRY CARTWRIGHT, RICHARD MERRIFIELD.
THOMAS C. HOPPER, *Superintendent at Philadelphia.*

This Company is now prepared to furnish WET AND DRY GAS METERS, STATION METERS, GOVERNORS, PRESSURE INDICATORS & REGISTERS, SERVICE and METER COCKS, and all other articles in their line appertaining to the use of Gas-Works.

The combination of Mechanical and Scientific Skill, and the long experience of the several members of the Company, is a sure guarantee of durability, accuracy and excellence of workmanship. Orders addressed

AMERICAN METER COMPANY,

West Twenty Second Street, New York. Arch and Twenty-Second Streets, Philadelphia. No. 23 West Street, Boston will meet with prompt attention.

Harris & Brother, Practical Gas Meter Manufacturers,

Continue, as heretofore at their old Establishmen, No. 1117 CHERRY ST., PHILADELPHIA, to Manufacture

WET AND DRY GAS METERS, and all kinds of GAS APPARATUS, and furnish all articles appertaining to the use of Gas Works. ☞OUR WORK WARRANTED—Satisfaction Guaranteed. Orders respectfully solicted, and promptly attended to, by
HARRIS & BRO., No 1117 Cherry st., Philadelphia.

Messrs. Harris & Brother, Philadelphia Gas Works, February 14, 185[illegible].

Dear Sirs;—I take great pleasure in stating that we have found your meters to register with entire correctness, and to be generally of very good quality—the number furnished by you to these works is over 5,000.
JOHN C. CRESSON, Engineer;

Office of the Gas Light Company of Augusta, Ga., March 6th, 1858.

This is to certify that having used meters manufactured by Messrs. Harris & Bro., for the last nine years, we do not hesitate to state they have given entire satisfaction in point of wokmanship and accuracy of registration; they are surpassed by none, and equaled by few manufactories in the Union; we have used meters made by other establishments but our preference is in favor of those made by Harris & Bro., of Philadelphia, Pa.
G. S. HOOKLY, Superintendent of the Gas Light Company of Augusta, Georgia.

Messrs. Harris & Brother, Philadelphia. Philadelphia, March 4, 1858.

Gentlemen;—We take great pleasure in bearing our testimony to the very superior character of the meters we have received from your establishment. We have always found the workmanshipall we could desire, while the accuracy and reliability of their measurement have always been satisfactory. We have used meters made by other parties, and none have given as entire satisfaction as those received from you. We are, gentlemen, very truly, yours, BIRKINBINE & MEARS.

Messrs. Harris & Brother. March 14, 1857.

Gentlemen—For the last ten years we have used in the Philadelphia Gas Works, meters made in your factory, and take pleasure in expressing my opinion to their correctness. On several occasions I have taken your meters apart, and found the material used in the manufacture of the same, to be as fine quality as is used in those imported from Europe, or made by any of the manufacturers in the United States. Respectfully Yours, GEORGE WIEGAND, Inspector of Gas Fittings, Philadelhia.

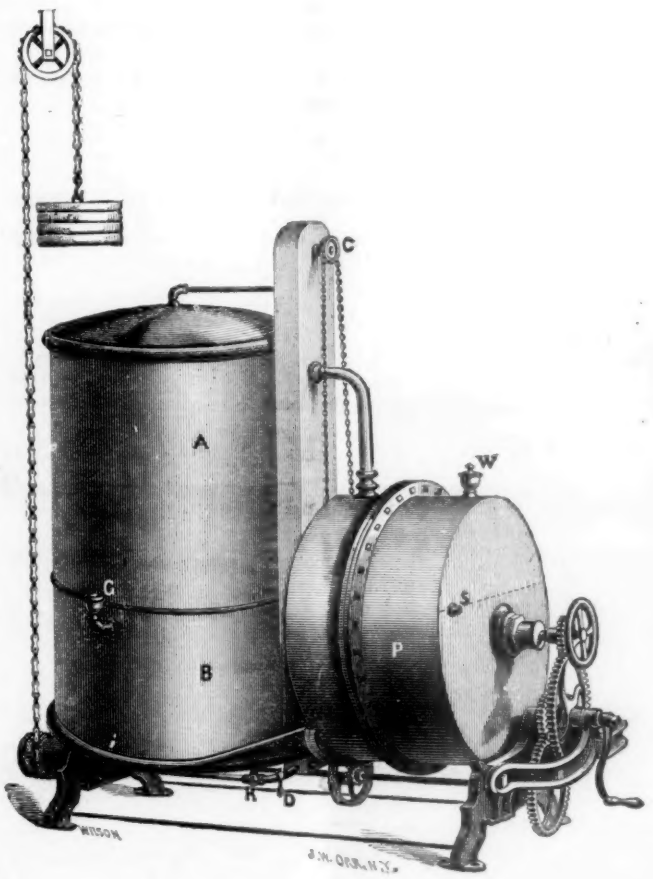
EMPIRE STATE GAS MACHINE,

LEVI STEVENS' PATENT, FOR SUPPLYING,

Dwellings. Stores, Factories and Public Buildings.

THE GAS GENERATED BY THIS MACHINE

Is a mixture of the vapor of hydro-carbon with common air. The mechanical devices employed are such as, from a long experience and critical examination into the nature of the element brought into use, seem best adapted to secure a certain and satisfactory result. GASOLINE, the liquid employed, is the more volatile portions of Petroleum, of a specific gravity of 0.6587. This liquid exposed to the action of this machine is vaporized, and a close mechanical mixture of the vapor with common air is effected. The value of the gas produced, its permanency, its illuminating quality, and freedom from liability to condensation, depend almost entirely upon the perfect and uniform character of this mixture. Hence the great importance of mechanical means adapted to secure all the conditions requisite in a Portable Gas Machine.



CASH PRICE-LIST OF MACHINES COMPLETE;

(Boxed and delivered on the cars at the Manufactory.)

No. 1,	$150,	5	Argand Burners.
do. 2,	250,	10	do. do.
do. 3,	350,	20	do. do.
do. 4,	450,	35	do. do.
do. 5,	600,	60	do. do.
do. 6,	1,000,	125	do. do.
do. 7,	1,500,	250	do. do.

This machine will produce the most brilliant and steady light without Fire or Heat, and is warranted to operate in every respect as represented.

The EMPIRE STATE GAS MACHINE is the most SIMPLE and EFFECTIVE MEANS KNOWN FOR PRODUCING GAS WITHOUT HEAT.

Its action is automatic, feeding itself with constant supplies of Gasoline, thus securing steady and uniform supplies of Gas. The gas produced is equal to the best known Illuminating Gas. It is as economical as any other, and is adapted to a wider range of use for Lighting, Heatin and Mechanical purposes. It will maintain its illuminating power under as great a degree of cold as any other. It is free from danger with the ordinary care in using gas. Its remarkably pure and steady light is pleasant for the eye. It renders it easy for persons living remote from street gas pipes to enjoy the luxury of a pure GAS-LIGHT, at a COMPARATIVELY SMALL COST, AND WITH LITTLE TROUBLE.

☞ The public are invited to witness its operations at our store. GASOLINE will be supplied by us, at market prices, or may be obtained from the various other sources of supply now going into operation.

MITCHELL, VANCE & Co., 620 Broadway, New York,

Manufacturers of Chandeliers and Gas Fixtures of every description. Also, Chandeliers, Brackets, Lamps, &c., for Coal Oil, adapted to Churches, Public Buildings, Dwellings, &c.

New Marine Conveyance.

In our last issue we gave a brief description of a new marine conveyance for which a patent was allowed to Messrs. Blomquest & Crook, on May 10th, 1856. Although great improvements have been made within the last half century in the art of steam navigation, or since that earlier period when first experiments were made on the little pond near where now stands that anomalous specimen of architecture, the Tombs; or the more important event when Robt. Fulton made the first successful steamboat trip on the Hudson, yet the inventive genius of the country shows continued activity and perseverence when at the present period it develops new and original fundamental principles, one of which this appears to be, and we may feel some little satisfaction, if not commendable pride, in the facts which lead us to the above reminiscence and comaprason of the past with the present. The Marine Conveyance seems to embody a principle which will give material advantage in speed, and facilitate the navigation of shallow waters and streams at all seasons of the year, and even afford a practicable method of transportation on land and water alike.

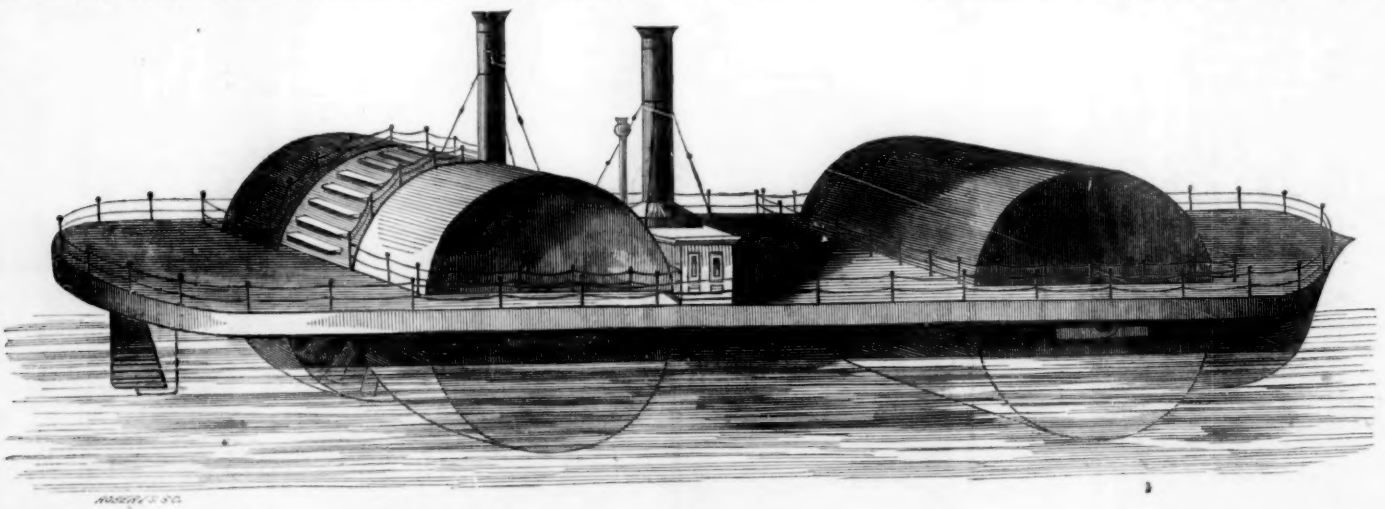
The immense advantage to inland communication and commerce this invention offers will be apparent if we considered the numerous points in the great West and elsewhere where the only natural water communication is cut off a great portion of the year by drouth, when sand-bars intervene and smaller streams and tributaries become nearly or quite dry, leaving only these naturally graded avenues just fit to give passage to this land-and-water conveyance which can move over the dry bed of the stream where it has not sufficient depth to float, and even pass out upon and over a prarie in any direction to gain its destination in the shortest distance, as "a bird flies."

Herewith we give an excellent illustration of the Marine Conveyance, which the intelligent observer will understand at a glance. To quote from our former description:

"It is, in fact a species of amphibious boat or car, consisting of a horizontal frame something like a large platform rail car, supported upon the projecting shafts or axles of large water-tight cylinders or drums, there being a single drum forward, and two drums and a paddle wheel aft, the paddle wheel being of less diameter than the drums, and situated between them on the same shaft. The forward drum has the capacity of both the aft drums combined. The boat or platform has large openings fore and aft to allow the upper halves of the drums to pass up through, so that it is supported upon the projecting shafts or axles. These drums have great buoyancy, and are calculated to sustain the boat when laden several feet above the water. The aft drums and paddle wheels are to be put in motion by a steam engine, as usual, to propel the boat or car, while the forward drum will revolve of itself as it meets the resistance of the water, thereby greatly lessening the power required to propel the conveyance."

The inventors believe that vessels built on this principle can be propelled with much greater speed in proportion to the power employed with a given displacement, owing to the avoidance of friction or resistance as the revolving drums pass through, and partially *over* the water. This was demonstrated in the following manner: A tank 20 feet long being filled with water, a small model of the boat was placed at one end with a cord attached to the bow and passed over a pulley at the other end of the tank with a suspended weight. The boat moved 20 feet in 6 seconds, while with the drums stationary 15 seconds, and with a model of an ordinary boat of equal displacement 10 seconds, were consumed, giving a ratio of 6 to 10, or about 40 per cent in favor of the revolving drums.

Another interesting feature introduced in this invention is a very simple and effective appliance to remove any water that may enter the drums. Curved radial tubes are arranged upon the inside of the drums, extending from the axle to near the inner periphery, where they expand like a funnel. Any water entering the drums will, as they revolve, enter the funnels which, are bent so as to come uppermost, dipping up the water like a cup, which is conveyed through the tubes as the revolution continues, to the axle, where it is discharged outside the drums. As the drums are air and water-tight, even one or more holes in one side will not sink the vessel. It will require holes on opposite sides to insure the sinking even while at rest. And a boiler explosion need not necessarily sink it, as there is no bottom to knock through.



These vessels can have two or more decks, and be enclosed so as to have all the modern conveniences for the accommodation and comfort of passengers, etc.

That this invention will eventually revolutionize the present method of navigation and water transportation, especially in those remote regions in the west extending far up into the rich mineral and agricultural districts at the base of the Rocky Mountains seems to be quite a plausible proposition; and if as successful it will produce a change in transportation which will advance the commerce, wealth and prosperity of those regions of fabulous resources and advantages, by removing the principal obstacle—inaccessibility.

Already parties in St. Louis, Mo., have decided to build one of these boats at a cost of $20,000.

The model of this invention, and plan drawings for building, can be seen at the office of T. B. Bunting, Esq., 69 Beaver street, who is prepared to negotiate for its introduction.

Heavy Blasting Operations.—The heaviest blast ever discharged on the Pacific Coast, was let off in the hydraulic claim of the American Co., on Manzanita Hill, Nevada, a few days since. The Nevada *Gazette*, in speaking of it, says that a tunnel was run into the hill ninety feet, and a cross-cut of sixty feet was run at the end. This cut was closely packed with 510 kegs of gunpowder, each keg having its head taken out. The tunnel was then closely tamped. The entire hill, 150 feet in depth, 200 in width and almost 300 feet back from the front, was lifted several feet in the air and completely broken up, ready for hydraulic washing. The cost of running the tunnel, powder, etc., was about $3,000.

A Monster Enterprise.

Away up in the Sierra Nevada Mountains, so high that air and water lose their respective gravity, and sticks of wood refuse to float on its surface, is a beautiful sheet of water, called Lake Tahoe, by 1,500 feet the highest body of water on earth ever navigated by a steamboat. Surrounded by mighty peaks, whose summits are clothed in mantles of eternal snow, while they look down on valleys where eternal summer reigns, this lovely lake seems beyond the reach of civilization, and consequently doomed to solitude forever.

But science has already seized upon it as a fit subject for another of her triumphs, and a daring engineer, one Colonel A. H. Von Schmidt, has determined to turn its vast volume of water to a practical use. He has incorporated a company with a vast capital, and will actually commence the work at once of tunneling the mountains to draw its pure waters to the California side. The waters are to be turned into the channel of a stream and carried to the hills which skirt the valley of the Sacramento, thence through the canal among the placer mines, down the level of the Capitol City; hence across the valley towards the coast range, and ultimately to San Francisco. This enterprise would, if carried out, supply a dozen interior towns with delicious water of a purity unknown elsewhere, provide the miners with water to carry on their work during the dry season, irrigate thousands of acres of now unproductive land, making it to blossom as the rose, and lastly, supply for all time to come the teeming millions who will inhabit San Francisco.

The temperature of the earth increases as we descend at the rate of one degree in forty-six feet; at a depth of fifty miles it will amount to eighty thousand degrees Fahrenheit—a degree of heat sufficient to fuse all known substances.

THE MINING & PETROLEUM STANDARD AND AMERICAN GAS-LIGHT JOURNAL, is published at No. 22 Pine Street opposite the Sub-Treasury Building on the 2d and 16th of every month, and is a recognized official organ of—

LIGHT, HEAT, MINING INTERESTS,

PETROLEUM, WATER-SUPPLY, AND

SCIENTIFIC SUBJECTS GENERALLY.

TERMS.

Subscription—Three dollars per annum in advance.

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☞All communications to be addressed to "The Editors," No. 22 Pine Street, New York

AUG. 2, 1856.